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INDEX TO VOLUME XXXIII.

JANUARY TO JUNE, 1913

R
11
C38
V. 33

EDITORIALS.

An Attack on Freud's Theories..... 10
A Hero 166
A High Mortality from Puerperal Fever in Ontario..... 159
A Subject for Consideration..... 248
Buttermilk in Chronic Infantile Diarrhea 164
Canadians Dislike Modern Battleships 77
Dr. Friedmann's Cure for Tuberculosis. 319
Dr. Triboulet's Treatment of Impetigo Contagiosa 238
Fees for Reporting Contagious Diseases 237
Friedmann's Downfall 405
Low Puerperal Mortality in Prescott and Russell County..... 157
Medical Insurance and Scales of Fees in England 242
Midwifery Should be a Branch of Surgery 402
Powdered Milk as a Diet for Nursing. 317
Questions Arising from the Application of Gas to Heating Purposes..... 2
Radium Cures Epithelioma..... 162
Reported Cure for Tuberculosis..... 15
Some Novel Views of the Origin of Appendicitis 397
"Some One has Blundered."..... 11
St. Vitus Dance May be Due to Syphilis 80
The Academy of Medicine, Toronto.... 169
The Administration of Salvarsan by the Rectum 3
The Care of the Feeble-Minded in Ontario 400
The Dominion Medical Council..... 13
The Feeble-Minded of Canada and Elsewhere 8
The International Joint Waterways Commission and Typhoid Fever... 6
The Lloyd George Insurance Act and British Hospitals 321
The Mortality of the City of Toronto in 1911 81
The Massacre of the Tonsils—A Case of Official Medical Tyranny..... 170
The National Insurance Act..... 83
The Scientific Practice of Chiropody... 241
The Visit of Dr. Friedmann..... 244
"When You and I were Young, Adam." 17

ORIGINAL CONTRIBUTIONS.

Abdominal Pain—Its Diagnostic Significance. By John F. Erdmann, M.D., New York City..... 269
Anesthetics at the Congress. By Geo. H. Carveth 64
Anoci-Association—A New Principle in Operative Surgery. By George W. Crile, M.D. 178
Diet in Its Relation to Disease. By H. B. Anderson, M.D., L.R.C.P.... 251
Fracture Treatment at the Congress. By N. A. Powell, M.D., Toronto.... 60
General Peritonitis in Gynecological and Obstetrical Practice. By B. P. Watson, M.D. (Edin.), F.R.C.S. ED. 125
General Septic Peritonitis. By S. M. Hay, M.D., C.M. 134
Gunshot Injuries in Civil Practice. By N. A. Powell, M.D., of Toronto.... 324
Gynecology at the Clinical Congress of Surgeons of North America. By Frederick W. Marlow, M.D., Toronto 49
Ideas Concerning the Causation of Some Cases of Pancreatitis. By Edward Archibald, M.D. 263
Interesting Clinical Work. By John Christie, M.D., Stayner 351
Medical Aspects of Septic Peritonitis. By John Ferguson, M.A., M.D..... 115
Notes on the Genito-Urinary Surgery at the Clinical Congress. By Charles H. Gilmour, M.B., Toronto. 57
Observations on the Treatment of Acute Suppuration of the Middle Ear. By Perry G. Goldsmith, M.D., C.M. 339
Septicemic Cerebro-Spinal Meningitis. By J. G. Fitzgerald 189
Sir William Tennant Gairdner, the Ideal Physician. By John Ferguson, M.A., M.D. 410
Some Impressions of the Clinical Congress of Surgeons of North America. By J. Milton Cotton, M.D., Toronto 44
The Clinical Congress at New York. By Wilbur Harris, M.D., Toronto.... 62
The Early Diagnosis of Cancer of the Uterus, with Report of an Hysterectomy in an Early Case. By Arthur C. Hendrick, M.A., M.B., F.R.C.S.. 433

The Last Day of the Congress. By A. H. Perfect, M.D., West Toronto... 66
Treatment of Diffuse Septic Peritonitis. By Herbert A. Bruce, M.D., F.R.C.S. 88
Treatment of Diffuse Septic Peritonitis. By Herbert A. Bruce, M.D... 186
What I Saw and Heard at the Clinical Congress in New York. By John Hunter, M.B., Toronto..... 53

SOCIETY PROCEEDINGS.

Academy of Medicine, Toronto..... 68
April Meetings of the Academy of Medicine, Toronto 353
Seventeenth International Congress of Medicine 444
The Annual Meeting of the Canadian Medical Association 442
The Academy of Medicine, Toronto.... 146
The Academy of Medicine, Toronto.... 192
The Academy of Medicine..... 274
The Museum at the Seventeenth International Medical Congress, 1913... 69

MEDICAL JURISPRUDENCE.

Insanity in its Legal Aspects. By the Honorable William Renwick Riddell, L.H.D., etc. 355
Malingerers and Malingering..... 290
Medical Insanity and Legal Insanity.. 449

SCHOOL HYGIENE.

Medical Inspection of Schools..... 452

SELECTED ARTICLES.

Carcinoma of the Uterus. By Thomas S. Cullen, M.D. 214
Combinations of Drugs as Pharmaceutical Units 142
Current Medical Literature..... 454
Current New Literature 366
Death by Electric Currents and by Lightning. By A. J. Jex-Blake, M.A., M.B. 361
Massacre of the Tonsils. By John M. Mackenzie, M.D. 219
News of the Month..... 224
Psychoses Occurring in Twins. By Philip Smith, M.D., New York..... 195
Public Health Week..... 465
Royal Society of Medicine..... 459
Sterilization and Social Therapeutics.. 380
Sterilization of the Unfit..... 297
The Problems of Obstetrical Practice. By W. W. Chipman, B.A., M.D..... 209
The Value of the Feeble-minded to the Community 377

NEWS OF THE MONTH.

Academy of Medicine Officers for Current Year 467
An Historical Medical Exhibition in London 150
Annual Meeting American Medical Editors' Association 468
A Personal Impression of Dr. Friedmann 306
Dr. C Everett Field Directing Holotheol 151
Dr. E. E. Kitchen—1842-1913..... 301
Honor for Toronto Man..... 151
Historical Medical Exhibition, London, 1913 304
Instructor for Miraj Medical School.. 301
Medical Research at the University of Toronto 149
Minneapolis Meeting of the American Medical Association 468
Missionary Physicians Wanted..... 152
Mudlavia's New Medical Director..... 303
Personals 75, 152, 222, 306, 385, 468
Saunders New Building..... 152
Simcoe Hall 74
The American Association of Orificial Surgeons 305
The College of Surgeons..... 467
The Glasgow Lister Ward and Museum 385
The Medical Council of Canada..... 466
Two Years' Interneship—Good Samaritan Hospital, Guanajuato, Mexico. 74

THE PHYSICIANS' LIBRARY.

A Handbook of the Diseases of the Eye and Their Treatment. By Sir Henry R. Swazy, A.M., M.D., D.Sc. 389
Aids to Ophthalmology. By N. Bishop Harman, M.A., M.B. 236
Aids to the Diagnosis and Treatment of Diseases of Children. By John McCaw, M.D., R.U.I. 232
A Manual of Clinical Chemistry, Microscopy and Bacteriology. By M. Klopstoch and A. Kowarsky..... 233
A Manual of Pharmacy for Physicians. By M. F. DeLorme, M.D., Ph.G.... 229
An Atlas of the Differential Diagnosis of the Diseases of the Nervous System. By Henry Hun, M.D..... 315
A Practical Medical Dictionary. By T. L. Stedman, A.M., M.D..... 225
A Reference Handbook of the Medical Sciences. Edited by Thomas Lathrop Stedman, A.M., M.D..... 316
A Textbook of Gynecology. By William S. Gardner, M.D..... 225
A Text-Book of Pathology. By Francis Delafield and T. Mitchell Prudden. 470
Auto-Intoxication and Disintoxication. By Dr. G. Guepa, Paris..... 232
Building a Profitable Practice. By Thos. J. Reilly, M.S., M.D. 155
Clinical Bacteriology and Hematology for Practitioners. By W. D'Estre Emery 226
Cutting It Out. By Samuel G. Blythe. 155
Diseases of the Eye. By J. Herbert Parsons, M.B., B.S., F.R.C.S..... 309

Diseases of the Mouth. By Prof. Dr. F. Zinsser 471
Diseases of the Skin and the Eruptive Fevers. By Jay Frank Schamberg, A.B., M.D. 390
Diseases of the Stomach, Intestines, and Pancreas. By R. C. Kemp, M.D. 226
Elementary Materia Medica for Pupil Nurses. By F. W. Scott, Jr., Ph.G. 232
E. Merck's Annual Report on Recent Advances in Pharmaceutical Chemistry and Therapeutics..... 310
Further Researches into Induced Cell-Reproduction and Cancer 154
Golden Rules of Surgery. By Augustus Charles Bernays, A.M., M.D..... 310
Guide to Midwifery. By David Benj. Hart, M.D., L.R.C.P.E. 153
Gynecological Operations, Including Non-operative Treatment and Minor Gynecology. By Henri Hartmann 471
Health and Longevity Through Rational Diet. By Dr. Arnold Loraud..... 311
Himself—Talks with Men Concerning Themselves. By Dr. E. B. Lowry. 228
Internal Medicine. By David Bovaird, Jr., A.B., M.D. 153
Materia Medica and Therapeutics. By Reynold Keble Wilcox, M.A., M.D. 235
Mechanical Vibration, Its Physiological Application in Therapeutics. By M. L. H. Arnold Snow, M.D..... 469
Modern Methods in Nursing. By Georgiana J. Sanders..... 234
Muscle Spasm and Degeneration in Intrathoracic Inflammations. By Francis Marion Pottenger, A.M., M.D., LL.D. 390
Occasional Papers on the Prevention of Some Common Diseases in Childhood. By J. S. Wallace, D.Sc., M.D. 228
Pathology and Treatment of Diseases of Women. Rewritten by A. Martin and Ph. Jung 233
Practical Medicine Series. Edited by Gustavus P. Head, M.D. 156
Practice of Medicine. By Hughes Dayton, M.D. 235
Prisms: Their Use and Equivalents. By James Thorington, A.M., M.D..... 388
School Feeding. By Louise Stevens Bryant 389
Skin Grafting. By Leonard Freeman, B.S., M.A., M.D. 391
Skin and Venereal Diseases. By Baum Moyer 234
State Board Examination Questions and Answers of the United States and Canada 392
Surgical Operations with Local Anesthesia. By Arthur E. Hertzler, M.D. 392
The Canadian Association for the Prevention of Tuberculosis..... 155
The Care of the Insane, and Hospital Management. By Charles Whitney Page, M.D. 314
The Conquest of Nerves. By J. W. Courtney, M.D. 313
The Course of Operative Surgery. By Prof. Dr. Victor Schmieden..... 391
The International Abstract of Surgery 313
The Ocular Muscles. By Howard F. Hansell, A.M., M.D..... 309
The Practical Medicine Series. Edited by Joseph B. De Lee, A.M., M.D.... 154
The Practice of Urology. By Charles H. Chetwood, M.D., LL.D..... 388
The Practitioner's Encyclopedia of Medicine and Surgery in all Their Branches. Edited by J. Keogh Murphy, M.C. (Cantab.), F.R.C.S.. 229
The Principles and Practice of Obstetrics. By Joseph B. DeLee, A.M.. 312
The Prognosis and Treatment of Diseases of the Heart. By R. O. Moon, M.D. 393
The Treatment, Prevention and Cure of Tuberculosis and Lupus with Allyl Sulphide. By William C. Minchin, M.D. 389
The Wassermann Reaction in the Diagnosis of Syphilis. By John W. Marchildon, B.S., M.D..... 234
University of Toronto Medical Bulletin 155
Vicious Circles in Medicine. By Jamieson B. Hurry, M.A., M.D., Cantab.. 312
We Young Men. By Hans Wegener... 387

OBITUARY.

Death of Dr. W. J. Wagner..... 148

SURGERY.

Recent Advancement in the Roentgen Ray Diagnosis of Diseases of the Genito-Urinary Tract. By William H. Stewart 294

CORRESPONDENCE.

A Piece of Impertinence..... 383

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Editorials

QUESTIONS ARISING FROM THE APPLICATION OF GAS TO HEATING PURPOSES

In a few Ontario towns, natural gas is used for heating as well as illuminating purposes and, being a cheap as well as an effective mode of heating, it is quite popular. It is employed in both the direct and indirect systems of heating. When suitable arrangements have been made for the carrying off of the products of combustion and there is a proper supply of fresh air for purposes of ventilation, it is a very satisfactory mode of heating. During cold weather, in towns where the daily fluctuations in temperature are not very great, the gas heater can be lighted and adjusted and requires practically no attention for weeks and even months. Its use, therefore, not only provides a saving in time, but likewise does away with much annoyance, there being no coal to shovel nor ashes to remove.

In Ontario towns, where a supply of natural gas

is not available, manufactured gas is employed for heating the water used in houses for baths and also the water used in basins and sinks, as well as for cooking purposes. This use of gas is more common, during the five months of fine weather, when coal or wood stoves are temporarily discarded. In many houses, a metal vent pipe is fitted between the flue-collar of the gas heater and the smoke stack of the kitchen stove. A second metal vent pipe may be attached to the flue-collar connected with the oven of the gas cooker and also connected with the smoke stack of the kitchen stove. Shortly after installation, these pipes become useless and have to be removed, because watery vapors arising during gas combustion condense on the inside of the metal pipes and lead to their oxidation, causing the metal to decay rapidly. Worse still, these same watery vapors condense inside the chimney flue and combine with soot, which is already present there, forming a black, semi-solid compound, which flows down to the lower levels of the kitchen flue, while, if allowed to escape through any chance opening, it will spoil the decorations on the walls of the room.

It is obvious, therefore, even on the score of good housekeeping, that the chimney flue for a gas heater should be independent of the chimney flue used for a coal or wood stove. Such a flue, which may be of brick, stone, tile, or other suitable material, should be carried above the roof of the building, should have a good draft and should have a damper, to be opened when the gas heater is in use and shut when it is not in use. With regard to the immediate connections or

pipes, to be fitted between gas heaters or gas cookers and the chimney flue provided for them, steel-plate flue pipes give satisfaction. The gas burners should be so constructed that the combustion of the gas is practically perfect. It is commonly noticed, that coal gas burning with air acquires a blue color, from the formation of carbon monoxide; develops a good deal of heating capacity in burning, and costs less for equal volumes than pure coal gas. It is also well known, that coal gas not combined with air burns with a yellowish flame, from the combustion of contained hydrogen; has not as good a heating capacity as the mixture of air and gas and that for equal volumes it costs more. The biological question as to the greater toxicity to mammals of the products of combustion, arising from coal gas burning in a gas heater with a yellow flame, in contradistinction to coal gas burning in a gas heater with a blue flame, should be solved in a laboratory. There is need for definite, scientific knowledge on this subject, in the interests of gas manufacturers and gas consumers, and health departments should undertake to furnish it.

J. J. C.

THE ADMINISTRATION OF SALVARSAN BY THE RECTUM

In his review of therapeutics during 1912, which appears in *Paris Médical,* 2 Novembre, p. 519, Paul Carnot remarks that the intravenous injection of salvarsan may cause congestion and edema of the face and localized thrombosis. On the other hand, the

intramuscular and subcutaneous methods of injecting salvarsan are falling into disuse, more and more, and it is, therefore, of considerable advantage to be able to administer this drug in a less objectionable form. Gelez, of Annecy, in *Jour. Med. et Chir. Prat.,* Novem., 1911, shows that salvarsan is efficacious, when administered per rectum and that it is well borne. The drug is dissolved in the ordinary way, a dose, viz., gramme 0.30 of salvarsan being mixed with two tablespoons of artificial serum; the sodium solution is added drop by drop, the precipitate which forms being redissolved when neutralization has taken place; the mixture is then raised to 100 grammes by the addition of lukewarm serum and afterwards injected through a glass funnel armed with a medium-sized Nelaton catheter, which is introduced into the rectum for a few centimetres. The patient feels no pain nor tenesmus, nor does he have any inclination to empty the bowels; absorption is rapid and complete. The therapeutic effects appear to be comparable with those obtained from the intravenous injection of the drug. In a large number of cases, treated in this fashion at the St. Louis Hospital, Paris, the results have been favorable.

Dejerine, Tinel and Caillé (*Rév. Neurologie, Fev.,* 1912) have published the clinical history of a woman, who had Jacksonian epilepsy; the attacks, which were very frequent, were confined to the face, consciousness not being lost; after a period of manifest aggravation, the disease yielded to two injections of salvarsan, gramme 0.20 each. Weil, Morel and

Mouriquand (*Lyon Méd., Juillet,* 1912) remark that, in the diseases of children, excepting tardy, hereditary syphilis, which is generally not virulent, the diseases benefitted by salvarsan (chorea, anemia, non-febrile bacillosis) do not require a very active treatment, and that absorption through the rectum in such cases answers very well. The following technic is employed by these authors in treating children of from 10 to 13 years of age with salvarsan: Begin with a dose of gramme 0.10, the second dose being 0.20 and the third one 0.30; dissolve the drug in 40 cubic centimetres of distilled water, alkalize in the usual manner; add 100 cubic centimetres of physiological serum (5-1000); and provide for the toleration of the injection by adding 5 or 10 drops of laudanum; the catheter is pushed up into the rectum as far as possible and the mixture is administered slowly through a funnel and ought to be retained for at least four hours. Luis del Portillo, of Madrid, (*Rév. Esp. de Dermatologia,* Juillet, 1912) has made a systematic use of the rectal injection of salvarsan. In order to quicken the absorption of the drug, he advises, that the patient should abstain from the use of liquids two or three hours before the administration of the injection; the injection is administered eight or nine hours before the time when the patient ordinarily goes to stool; to secure tolerance, he also gives a hypodermic injection of morphine. For a dose of gramme 0.30 of salvarsan he employs 75 grammes of serum; for one of gramme 0.50 he employs 125 grammes of serum; for a dose of gramme 0.60 he employs 150

grammes of serum. The reactions, which appear two or three hours after the injection, are relatively of small account and no irritation in the rectal mucosa is complained of.

In some patients, absorption from the rectum is good; in others, in whom absorption from the rectum is bad, the rectal administration of salvarsan should not be practised. Paul Carnot remarks that, on several occasions, he has been in a position to observe the efficaciousness of salvarsan introduced into the system by the rectal route and the convenience of this method of treatment. J. J. C.

THE INTERNATIONAL JOINT WATERWAYS COMMISSION AND TYPHOID FEVER

An effort to obtain the further prevention of typhoid fever in American and Canadian municipalities, bordering on the great lakes and the connecting rivers, is engaging the attention of the International Joint Waterways Commission. At their last meeting held in Washington, November, 1912, it was decided that, prior to the next meeting, in November, 1913, there shall be further examination of the boundary waters of Canada and the United States. This extensive work will include the waters of the following rivers and lakes: Rainy River, St. Mary's River, St. Clair River, Detroit River, St. Lawrence River; Lake Superior, in the neighborhood of Fort William, Port Arthur and Duluth; Lake Huron, in Saginaw

Bay, Sarnia and Port Huron; the west end of Lake Erie, in the neighborhood of Port Stanley and Cleveland; Lake Ontario, near Toronto, at the mouth of the Niagara River, near Rochester, N.Y., and at Kingston, Ont. The Province of Ontario has agreed to carry on the work, making the necessary analyses in respect of the Canadian waters; the various States interested will look after the work on the other side of the boundary line. Should the contention of the Commission in this matter be upheld—that a hurtful degree of sewage pollution can be proved to exist in the waters of the great lakes and the connecting rivers —it is expected that efforts will be made by municipalities on both sides of the line to prevent further pollution of this kind.

The channels of typhoid fever are many; the source is but one. It is a safe opinion, that typhoid bacilli are regularly discharged into bodies of fresh water, which, being used as water supplies, convey the infection of typhoid fever. It is also true, that the waters of bays, along the sea coast of the United States, are polluted with quantities of raw sewage and that oysters, fattened in these waters, contain typhoid bacilli, which prove infective to persons who eat the oysters. Milk, to which polluted well water has been added, may also prove infective or the infection may be communicated to milk by flies, which carry the typhoid bacilli from an infected domicile. Individuals who have recently recovered from typhoid fever, may prove infective to nurses or other persons, brought into contact with them in the same house.

In cities such as Lawrence, Mass., and St. Thomas, Ont., where the public water supplies are filtered, it has been noted that a large reduction in the morbidity and mortality arising from typhoid fever followed the installation of filters. If the use of pure water were general in all countries, the incidence of typhoid fever would be promptly reduced throughout the world. Pure water is the ideal, that every municipality should aim at—to be kept pure if unpolluted, to be filtered, if polluted. In the meantime, doctors, practising in country places where typhoid fever occurs, can benefit their neighbors, by ordering the destruction by fire of the excreta of their typhoid patients—a plan which has been applied with excellent results in India. J. J. C.

THE FEEBLE-MINDED OF CANADA AND ELSEWHERE

In all the industrial countries of Europe the feeble minded and the mentally unstable abound. In Great Britain, because that country has been the longest engaged in manufacturing, and for that reason has the largest urban population, there are perhaps the greatest number of this class. But all the European countries are afflicted with feeble minded to a greater or less extent. Recently, attention has been drawn to the alarming increase of the mentally defective, mentally incompetent or whatever such may be termed in Canada and in the United States. In the journal

for December, comment was made editorially on a meeting which took place in November in Toronto for the purpose of discussing the question, and the opinion was expressed that a stricter and more adequate inspection of immigrants was indicated. In New York similar views have been just promulgated, and a National Committee has been formed in the United States to endeavor to combat the evil in every way possible.

It is necessary, even essential, for the welfare and the existence of both the United States and of Canada that *inspection of immigrants should be discriminating, efficient and adequate.* Neither country desires nor should admit any individual who is calculated to be a burden on, or a detriment to his fellow men. Therefore, by all means *make inspection sufficiently strict.* But there is another point which was not dwelt upon as its importance deserved in the editorial in the December issue. That is that all the cities of Canada should *see to it that the housing conditions and sanitary arrangements are of the best character.* It has been stated more than once within the past few months that in some of the cities of Canada and of the United States, the bad conditions of factories, workshops and homes which prevail in certain parts of Europe are being perpetuated. Slums are not unknown in Canada, and it is therefore fitting that when the immigrant does come to Canada that he should find conditions at least as good as they are in his own country.

W. A. Y.

AN ATTACK ON FREUD'S THEORIES

HARDLY any theory or theories advanced by a well known scientific man have been subjected to so severe criticism as the views of Freud on the origin and causation of neuroses. Distinguished neurologists have divided into two camps on the question, and the arguments of the disputants have been strenuous and even bitter. It would appear, however, regarding the subject dispassionately, that the weight of evidence is on the side of the opponents of the theory. It is not disputed that the sexual instinct plays an important part in the creation and development of neuroses, but it is denied that it is the supreme factor. On November 9th, 1912, Prof. Ladame, of Geneva, at the meeting of the Swiss Society of Neurology at Lucerne, discussed the theory. He said that Freud had summed up his views in one sentence. A normal sexual life excludes neurosis. Many of the greatest authorities had refused to accept this pan-sexual theory, holding that its tenets were exaggerated and inexact. Some noted neurologists had been scathingly sarcastic on the subject. Referring to sexual abstinence, for example, Prof. Ladame declared that it does not offer any of the dangers Freud and his pupils have ascribed to it. In his opinion a capital mistake had been made by confounding the functions of nutrition and those of reproduction.

To a great many practitioners, and to many neurologists, it would seem that it is almost a case of carrying the influence of sexual instinct to an absurd point.

To argue that a baby, by certain actions such as sucking the thumb, signifies that he or she is impelled by sexual instinct, is in fact neurotic, appears to the ordinary mind to pertain to gross exaggeration. Until further and more convincing proofs, if that be possible, are brought forward, the medical profession will be content to accept Freud's views in part, but to dismiss some of his views as visionary and even pernicious. W. A. Y.

"SOME ONE HAS BLUNDERED"

It is always unfortunate when family affairs become the gossip of outsiders. That a group of medical gentlemen casting the usual ballot in their own castle, number thirteen Queen's Park, should arouse comment in the lay press shows that "Some one has blundered." An applicant for Fellowship was nominated by a Fellow of the Academy, and the applicant did not receive sufficient votes to elect him, owing to a little way he has (some people say) of causing climatic disturbances to occur in his vicinity. So far, the little weather god has been Billiken wreathed in smiles, reigning uninterruptedly at the Academy. The Fellow who proposed the new applicant is also President of the Academy, and so, in the momentary pause that ensued upon the return of the ballot, he had not time to put his finger to the pulse nor his ear to the heart of his fellow members, and so made a serious mistake in his diagnosis, pronouncing

the case one of incompetency in himself as President, and there and then resigned office. Such an idea, we are sure, never entered the minds of any one of those present. The President of the Academy of Medicine has the respect and affection of every member. If, perchance, as a Fellow, he had not a knowledge of the consensus of opinion of the other Fellows as to the new member he proposed, to err in judgment is human. To be a President is to be impartial and impersonal. We feel sure that the man whom the Fellows have placed on so high a pedestal in their esteem, will not slam the door in the faces of the gentlemen who so gladly, courteously and patiently hold it open for him to re-enter.

The Academy of Medicine is, as we understand it, a community of interest, not a place in which to air personalities. The whole occurrence is to be regretted by all those who have the dignity and interests of the Academy at heart. The professor who allowed his name to be "put up" is indeed to be pitied, he has always stood high scholastically, and some of his so-called supporters in the Academy have indeed added insult to injury, by discussing the subject in the market place and assuring everybody that the professor is all right, quite all right. No one who knows at all of the professor's work, doubted his position or attainments as a teacher, then why this blunder, running around acting sponsors for a man who is not even under judgment?

The interests of the Academy must be supreme, and the Fellows must be of those in the profession,

who soar higher than cliques or personalities, emulating the old Village Blacksmith of picture and poem "who looked the whole world in the face, for he feared not any man."

December eleventh. W. A. Y.

THE DOMINION MEDICAL COUNCIL

The Canada Medical Act, which was passed in 1902, could not become operative until it had been approved of by the Legislatures of the different Provinces of Canada. This essential having been obtained, the Act became law during the past year. The first meeting to organize the Dominion Medical Council under the Act was summoned to meet at Ottawa, November 7th, 1912, by the Hon. Dr. Roche. Though the Dominion Medical Council is to be attached to the Federal Department of Agriculture, there was a certain fitness in allowing the summons to the inaugural meeting to be issued by Dr. Roche, who, since 1902, had been associated in the necessary legislative work with Dr. Roddick, the author of the Canada Medical Act, and who, subsequently, after Dr. Roddick's retirement from political life, had championed the bill in the House.

In the Dominion Medical Council, the representatives from the Provincial Medical Councils are: Ontario—Dr. W. Spankie, Wolfe Island; Dr. R. J. Gibson, Sault Ste. Marie. Quebec—Dr. L. P. Normand, Three Rivers; Dr. Arthur Simard, Quebec. New Brunswick—Dr. A. E. Atherton, Fredericton;

Dr. Walter A. White, St. John. Nova Scotia—Dr. A. W. H. Lindsay, Halifax; Dr. John Stewart, Halifax. Manitoba—Dr. R. S. Thornton, Deloraine; Dr. J. S. Gray, Winnipeg. Alberta—Dr. R. G. Brett, Banff; Dr. John Park, Edmonton. British Columbia—Dr. R. E. McKechnie, Vancouver; Dr. K. Walker, New Westminster. Saskatchewan—Dr. Thompson Young. Prince Edward Island—Dr. MacNeil.

The representatives of the Canadian Universities are: Dalhousie—Dr. Frazer Harris, Halifax. Manitoba—Dr. J. R. Jones, Winnipeg. Queen's—Dr. J. C. Connell, Kingston. Western—Dr. H. H. McCallum, London. Laval, Montreal—Dr. E. P. Lachapelle, Montreal. Laval, Quebec—Dr. Dagneau, Quebec. McGill—Dr. F. J. Shepherd, Montreal. Toronto—Dr. J. M. MacCallum, Toronto. The representatives of the Homeopathic physicians are: Manitoba—Dr. Charles E. Sugden, Winnipeg. Ontario—Dr. E. H. G. Hardy, Toronto. Quebec—Dr. E. M. Morgan, Montreal.

The Dominion Medical Council will provide for the qualifications of candidates for registration and examination and will appoint a board of examiners. It will accept the matriculation examinations of candidates which are recognized by the Medical Councils of the different provinces; but will have the control and management of examinations in purely professional subjects. Persons holding medical degrees from accepted foreign universities or colleges may be admitted to the examinations of the Dominion Medical Council; but no Canadian

will be eligible, unless he is also the holder of a license from the Medical Council of a Canadian Province. A medical practitioner, holding a license from the Medical Council of a Province of Canada, may register with the Dominion Medical Council, if ten years have elapsed from the date when his provincial license was issued. A practitioner, whose provincial license is not of ten years standing, may register after the ten years' period has expired. The diploma of the Canada Medical Council will entitle the holder to practise medicine in any Province of Canada.

The Dominion Medical Council elected the following officers: President, Dr. Roddick, Montreal; Vice-President, Dr. Thornton, Deloraine, Man.; Registrar, Dr. R. W. Powell, Ottawa; Executive Committee, Drs. McKechnie of Vancouver, Hardy of Toronto, Stewart of Halifax, Brett of Banff, Spankie of Wolfe Island, and Normand of Montreal.

J. J. C.

REPORTED CURE FOR TUBERCULOSIS

THE so-called cures for tuberculosis which have been heralded from time to time, have been many and diversified. Some of these have been, on the face of them, obvious frauds, while a few have been undoubtedly brought forward in good faith.

From Berlin has come the news recently that a Dr. Friedman has announced that he has discovered a cure for tuberculosis. Prof. Metchnikoff, in a lecture given in London before the Royal Society of Medicine on November 29th, 1912, after referring to

Koch's announcement of the discovery of tuberculosis, said that another sensational announcement had been received from Berlin within the past ten days, that of Dr. Friedman's cure.

The distinguished Polish professor remarked that in common with all others who were working on the subject, he hoped that at last something definite had been found, but as yet it was too early to offer any criticism. There was one thing, however, which he felt justified in saying that Dr. Friedman had seen fit to announce that he proposed to keep the remedy a secret. In saying this, he expressed the regret of others who were equally eager to find a cure that the efficacy of Dr. Friedman's discovery cannot be tested. There is little doubt that the majority of medical men will agree with Metchnikoff in deprecating the secrecy thrown around the discovery by Dr. Friedman, as it is antagonistic to the interests of the general public and foreign to the custom of scientists who are supposed to, and generally do, work for the good of mankind as a whole. It will be recalled that Koch made no secret of the composition of tuberculin, and the course pursued by Dr. Friedman will not commend itself to the medical profession at large, as it savors too much of commercialism. Moreover, the reputed cure should be tested before it is widely advertised, for the reason that a very large number of persons suffering from tuberculosis, in their eagerness to try a remedy, will be induced to travel perhaps to Berlin, and may do themselves irreparable harm. "Go slowly" is the best motto in such circumstances.

W. A. Y.

"WHEN YOU AND I WERE YOUNG, ADAM"

So often the music of a life is a song without words, as a man lingers untiringly at the day's work and his friends never find the leisure hour to tell him how he has helped them along the road. Once in a while a man surprises his confreres by saying he is going to retire from some of the activities of a very busy life, while still young in heart and full of energy. Verily, he has his reward, as in the case of the still young Adam Wright, who had the joy of listening to words that formed indeed an autobiography of sincere kindness and friendship, from the men who were godfathers to him, the men who were boys with him, and the men whom he taught to be good Knights of the Scalpel. On November twenty-ninth a dinner was given for Dr. Adam Wright upon his retirement from the Medical Faculty of the University of Toronto, as Professor of Obstetrics, and a silver tea service presented, out of which may he enjoy many a cup of kindness, sweetened by old jests and old memories.

Dr. N. H. Beemer was Chairman, and as Oliver Wendell Holmes was unavoidably detained and could not recite his favorite poem "Boys," Professor Ellis recited his "Ode to Adam," and it proved worthy of the poet and its hero.

When you and I were babes, Adam,
In good Prince Albert's time
The word went forth that war should cease,
Commerce should link all lands, and Peace
Should dwell in every clime.

When you and I were boys, Adam,
In Queen Victoria's days,
Those guns that now so silent stand,
Where meet the rulers of our land,
With olive decked and bays,

Roared from the Russian ramparts grim,
Their muzzles all ablaze,
While old Todleben, with his back
Against the wall, foiled each attack
In Queen Victoria's days.

When you and I were young, Adam,
In good Victoria's time,
We stood together, side by side,
When Mewburn and Mackenzie died,
And Tempest, "ere their prime."

But say not "they have left no peer"—
That were unwelcome praise
To those three friends of ours long dead,
Whose blood for Fatherland was shed
In good Victoria's days.

In royal Edward's time, Adam,
Fresh prophecies were rife.
They told us nickel-pointed shot
And flat trajectories and what not
Could rid the world of strife.

But now that we are old, Adam,
We see with startled eyes
Quick-firing guns won't stop the Jap,
Nor Serb nor Bulgar cares a rap
Who wins the Nobel prize.

When you and I were young, Adam,
There were no telephones;
There was no ultramicroscope;
And no X-rays for those who grope
And pry among the bones.

But, though with diagnostic aids
They were but ill supplied,
There were a few who shrewdly guessed
(Old What's-his-name among the rest)
At what went on inside.

When you and I were young, Adam,
It was damnation stark
To doubt that all that breathe the air,
Came, male and female, pair by pair,
Straight out of Noah's ark.

"*Mutantur,*" Adam, "*tempora*
Mutamur atque nos,"
And now we're not a bit afraid
To tell just how the world was made
In detail and in gross.

In pre-Archæan periods
Of elemental stress
The C and H and O and N
Collide, rebound, combine, and then
React with H_2S.

Colloidal specks from this ensued
Which grew, and grew, and grew,
With lively motion all endued,
Till they attained a magnitude
Of $0.01.\mu$.

Then, somewhere over .01
And under .05
Amœboid feelers out they sent
And took some liquid nourishment
And, lo, they were alive!

In pre-Archæan periods
Let fancy have her fling,
But, Adam, will your faith allow
Such goings on can happen now
When George the Fifth is King?

Well, times may change, and we may change,
But find him when I can,
I'll drink a health to one who's stood
For all that's honest, kind and good;
So, here's to you, Old Man!

A number of suitable speeches were made, and, though we cannot reproduce as completely as we would like all of the eloquence of the evening, the following will give some idea of the high esteem in which the guest of the evening is held:

Following the dinner and after the health of the King had been honored, the chairman, on arising, said that he was somewhat puzzled to determine what course to pursue with the remaining part of the programme, for on the one hand, when speaking to the guest of the evening about it, and asking him whom he would care to hear speak, the guest had answered that he would like the boys to fill up their glasses and have a good time and never mind about speech-making. On the other hand, the chairman observed that he had been literally besieged during the past several days by letters from nearly everyone of the invited guests to permit them under some pretext to be called upon for a speech, always observing the condition that he was to impress his hearers with the idea that the individual with his carefully prepared speech was not expecting to be called upon. He wanted to say that before proposing the health of the guest of the evening it would seem appropriate when there were so many gentlemen present who were officially connected with the University and with other interests in which they had been associated with the guest that these gentlemen should say a few words on the occasion which had brought them together. There were present around the board a member of the Senate of the University, a member of the Board of Governors, the Dean of the Faculty of Arts, the Dean of the Faculty of Medicine, a former Professor in the old Toronto School of Medicine who had been one of the guest's professors in his college days, about twenty or thirty professors of the Faculty of Medicine, a

Professor of the Women's Medical College, the Secretary of the Provincial Board of Health, the City Medical Health Officer, and others, and he assured all of them that they would have an opportunity to say something in reference to their relationships with the guest, and he said he would do what he could to make it appear that they were all called upon unexpectedly.

Colonel Gooderham, a Governor of the University of Toronto, expressed in felicitous terms the high appreciation of the Governors of the University for the guest of the evening, and voiced in a most cordial way as a patient the fine qualities possessed by Dr. Wright.

Mr. John King, K.C., who followed Col. Gooderham, said that the French have a saying that it is the unexpected that always happens. This would apply to himself and others who might be called on, but they would all gladly respond to the invitation to speak kind words of the honored guest of the evening. He himself felt it a privilege to be present in this distinguished company—the flower of the medical profession of this city—who were gathered around the festive board to do honor to their old friend. It was a compliment that was well deserved, and he was sure it was fully appreciated by Dr. Wright and his wife and family. We were all agreed there was nothing too good for him. Dr. Wright had lived a pretty long and a very useful life. He had been identified with many interests, and had borne his part and done his duty well in everything with which he was connected. As a member of the medical profession especially he had had a distinguished and honorable career. Everyone who belonged to that profession, and who, like Dr. Wright, had been a laborious and self-sacrificing practitioner, deserved well of his fellow citizens. It was a profession for which he (Mr. King) had a very high regard. And, as this seemed to be pretty much a meeting of University men, he could not help saying, as he had said in the Senate and elsewhere, that the Medical Faculty, of which Dr. Wright was till lately a prominent member, had been a tower of strength to the University. He (Mr. King) was proud that one of his sons was a member of the profession, and he sometimes thought that his other son might well have joined it, instead of being

tossed on the tempestuous sea of Canadian politics. He had known Dr. Wright for well on to half a century, and they had always been warm personal friends. They were undergraduates together in the Arts course, and when the Doctor in his youthful days was attending the Military School, they had bunked together in his (Mr. King's) narrow bed in the old College Residence. They were also comrades for years in the University Rifle Company, and in the old days of the electoral struggles for seats in the Senate, they had stood shoulder to shoulder in the fight. They had helped each other in those contests, and had always managed to "get there." There were many such pleasant associations in which he and their guest had been cordial friends, and he was glad to have this opportunity of recalling even a few of them, and at the same time of wishing him health, happiness and prosperity in all the years to come. This was the wish which they all bore him in their hearts.

Dr. C. K. Clarke said in part:

At less than a moment's notice you have called on me to represent the University, in view of the fact that the President is not here. One does not really know, under such circumstances, whether he is standing on his feet or on his head, but if he judges things by his sensations it is on his head. Then again, it is bad form to attempt to represent the University, as the present custom is to misrepresent it as far as possible—that is, if we are to take heed of all we see and hear.

Of course, those of us who are lucky enough to be within the charmed circle, are prone to believe that the institution stands in a very important relation to the success of the country, and while it has critics, still, on analysis, it may be shown that, after all, those critics mean no harm, but are good friends at heart, and better Canadians than they are critics.

It is all very well to announce publicly that the University is a centre of organized blackguardism: to say that it is a godless institution—that, again, it has gods—false ones—that it has wretched idols to worship, and even more wretched ideals. Don't believe it, gentlemen; you know better. It is not perfect, and no doubt will be even greater than it now is in the very

near future. It really needs no laudation from me, as it speaks for itself.

Some one has told me that I was really expected to reply for theology this evening; just why was not apparent until I remembered that my theological experience was perhaps wider and broader than that of any other Canadian. One could not spend thirty-seven years on the staff of a lunatic asylum without meeting more varieties of theologians than the average physician is accustomed to seeing. By your smiles I see that you suppose those theologians were in the wards, but such was not the case, although possibly some of them ought to have been. I refer to those who kindly came to give their services every Sunday.

They included every denomination and church—I am careful not to differentiate here, between denomination and church —and apparently all felt the embarrassment of the situation. It is difficult to know what to talk to the insane about, but by a psychological process, not worked out by me, most of them talked about the prodigal son. They seemed to have pretty definite views about him, and treated him from every imaginable standpoint, except that of heredity; one enthusiast even promising to come back with a sermon on the prodigal son's brother. He never returned though, and I left the asylum service with my curiosity ungratified.

Afterwards I attended the University sermons, and in spite of the fact that the students might easily have been addressed on the interesting theme, not one word has been heard. In New York I recently visited a large church, wishing to hear good music—there was no music, but there was a sermon on the prodigal son—the same old sermon, the same old point of view. It began to look as if the application was a personal one. I wonder if it was? At all events I have come to this dinner to share in the killing of the fatted calf, and to join you in the glorification of the old Adam who has ben disporting in the University Garden of Eden for so many years.

I met him many years ago for the first time in the company of poor brilliant Dick Zimmerman. At that time the Medical Faculty was just as "Wright" as it could be, with Drs. Henry Hoover Wright, Ramsay Wright, George Wright, Fred Wright,

Adam Wright and Wm. Oldwright. Now it has Dr. A. B. Wright, so the country is safe. These gentlemen all ate of the fruit of knowledge quite freely—not only ate of it, but handed it to others with benefit to all, and kept up the traditions of an honorable name.

Dr. Adam Wright deserves the eulogy given him as he has always been a consistent and active friend of the University. He is loved by everyone and respected by all; his career is one of which he and those associated with him have reason to be proud. I wish him the enjoyment of many years of health and happiness.

Dr. J. A. Temple said:

It is with a great deal of pleasure I rise to make a few remarks about our guest of the evening. Indeed, I consider it a compliment to be asked to do so.

My acquaintance with Dr. Wright carries me back quite a few years. It commenced when I resided on Bay Street, about 1871. He was then a pretty, fair-headed young man, an Arts student. After he graduated in medicine, this soon ripened into a warm friendship, and as we were both engaged in the same line of work the opportunities for frequent meetings in the hospital and out of the hospital gave me many occasions for becoming better acquainted with him and the better able to judge of his many fine points, and I may say that throughout all these years we have never had anything but the closest and most intimate and kindly relationship with one another. To appreciate all that is good in Dr. Wright is to know him intimately, and you will then find, as I have found, that a better or truer friend or more honorable or cultured physician is not to be found in our profession. I sincerely trust Dr. Wright may long be spared to remember this pleasant and memorable evening when we all unite in extending to him our heartiest good wishes for continued happiness and prosperity.

Dr. I. H. Cameron spoke as follows:

When Dean Clarke transferred his episcopate from the Lunatic Asylum to the Medical Faculty and the General Hospital he apparently brought with him the atmosphere of delusions, for he told me less than half an hour ago that somebody

had promised him that he would not be called upon to make a speech, and when I came back into the room a few minutes ago, judge of my astonishment to find him on his feet making "the speech of the evening!" I am not surprised, therefore, to discover that the belief I entertained that, being a member of the committee with this programme in charge, no unexpected "stunts" would be introduced without my privity and consent, was also a delusion which I too fondly hugged. Nevertheless my revenge is at hand! For the speech which I have unexpectedly prepared is a lengthy one, which will not permit of paring. I had hoped that my role to-night would be to echo and applaud all the good things which I knew the guests had come prepared to say, and I knew of none who was prepared to say other than good things; but it is at the same time a genuine pleasure to respond to the chairman's polite invitation to add my personal felicitations on this happy and auspicious occasion. It is one of the few delights incident to age to look back over the course of forty or fifty years and to recall the *votom, timor, ira, voluptas, gaudia, discursus,* of the bygone time, even though it inevitably makes one *laudator temporis acti,* and this is universally regarded as an infallible sign of age. But some will say: "What profit is there in harking back? Let the dead past bury its dead!" and they will quote the Spanish proverb: *No hay pajoras in los nidos d'antañ.* And they are partly right. But though it may be true that there are no birds in last year's nest, still it may be full of tuneful memories, and to a few of these I would like to invite your attention, dividing the old saw equally between Arthur Wright, John McCallum, Willie Goldie, et al. on the one hand, and Barry Nevitt, Albert MacDonald, Geo. Ryerson, myself, etc., on the other, *Indocti discant et ament meminisse periti.* And in the first place I want to remind you that in the good old days Adam Wright played cricket. And he was very quick and active in the field, a good point or coverpoint or slip, a barn door at the wicket, the despair of bowlers, and a prince among "the flannelled fools." In after days we had a sawbones team, whose peregrinations he always accompanied. He played football, too, the old-fashioned game, and on many a hard-fought field he contributed to the victory—then almost invariable—of Medicine over Arts. In

this connection I would cite the names, for his interest and mine, of Bonter, of the mighty boots, who came from Trenton-way as well; Duncan Cameron, of herculean frame, who died in his third year of enteric fever; Dugald Stewart, of athletic rather than philosophic fame; Donaghi MacFayden, who had "ta Gaelic," and was a "Champion of the Dames"; Sandy Whitehead, and many more, if time sufficed, in order that John Malloch and Arthur Wright and John McCallum, whom I see before me, might be made to realize the truth of the Horatian dictum:

Vixere fortes ante Agamemnona menti.

In those days there answered to the lecture roll such men as Dick Zimmerman, possibly our most brilliant graduate, *qui ante diem periit;* Fred Wright, Delamatter Ferrier, O. C. Brown, Sidney Bates, Milton Ira Beeman, T. J. W. Burgess, Burnham, Ball, Close, Coventon, Forrest, Ellis, Gray, Greenlees, Groves, Higel, Jukes Johnson (Chief Coroner), Beemer (in the chair), Britton (so lately left us for the West), McBurt, now of Paris and a member of the Senate, who served in the American cavalry, and whose painting depicting a typical Canadian doctor starting off on a winter's round of visits adorns the hall of the Academy of Medicine; Sir William Osler, Bart., Regius Professor of Physic in the University of Oxford, not unknown to fame in any land washed by the Seven Seas; John Beattie Crozier, of Westbourne Grove in London, scarcely less famous through his "History of Intellectual Development"; Balmer; Frank Armstrong; with his long red beard concealing the tacheotomy tube which good old Richardson inserted in an emergency, and which he wore until his dying day fully five and twenty years later, when consumption called him home, and so "his big manly voice (suddenly) turning again towards childish treble, piped and whistled in his sound" to our amusement, and the freshman's amazement. McLellan, too, likewise from Trenton, and later of Chicago, and Shojejowaneh, the Indian, who never graduated, because, with the stoical seriousness of his tribe he combined no cleverness, and Yokome, the joker, who also never graduated, because with such native cleverness he combined no seriousness. Safe and solid Angus Mac-

kinnon, plodding John Gunn, Andy Luke and Adolphus Farewell, Geo. Shaw and McDonagh, Duncan and Donald Fraser; the three Whites (Tom, Jack and Jim), Norman Meldrum, still in Ayr, whose long flowing beard was, as the Florentine woman said of Dante's, "singed in the reek of Hell" (I refer, of course, to the color (*ne crede colori*), for I do not remember ever to have seen Meldrum at the Caer Howell), but patriarchal now, no doubt; Rolph Lesslie, who served in the former Turkish war—and always in the army of the Lord—and to make an untimely end, Albert Macdonald and Lady Robinson, swelled our list. I have not held Macdonald to the last from forgetfulness, for, sitting there immediately upon my right, I have been constrained to "keep my eye upon him" ever since dinner commenced, but as we always associated him and "Lady" Robinson together (I think they were prosectors together, and lived in the same house, or on the same staircase), I could not bear to dissociate them now, and, having politely omitted to mention the "Lady" among the Seniors, I was obliged to reserve them for the distinction (grammatically) of the other end of the sentence. Most of these, and many other of our time whom I could mention, are now amongst the shades, and no longer to be met in the haunts of shadow-casting men. Their names are but a memory, but I am sure they are not forgotten by one at least whose enforced absence we so much regret to-night, Chief Justice Sir Glenholme Falconbridge, who was registrar in our time, and who, like Caesar, knew the name and home of every man whom he enrolled. Some of you I may have wearied by calling this old-time roll, since "dead on the field of battle" was the too monotonous response. "The evil that men do lives after them, the good is oft interred with their bones," and so the interesting memory of most of us hardly survives six months. For a few of you, however, the twigs of last year's nest in crackling beneath my touch have sent vibrations forth to find responsive tremors in drying and withering heart strings. The other night I had occasion, in order to keep a morning's clinique, to motor some 75 or 80 miles through heavy rain and mud, but fortunately I had the company of one of those old-time fellows (who frequently make such night journeys between

daily operations), Abram Groves, of Fergus, and, with his help, although we had to halt every few miles to clear the valves of mud, I spent "a very pleasant evening," exchanging happy memories of the men and times just mentioned.

Our boxing bouts and wrestlings, the stag dances and the games of cards, played upon crossed benches for a table, in the old King's College Building in the Park, where now stands the Biological Department, and the visits to the hospital in the van which always left the old building at one o'clock, and proceeded to the hospital by way of the Queen Street Avenue, Queen Street, Parliament Street and Don Street, picking up en route any students who wished to join it on their way to the clinique, as well as any street organ or itinerant musicians whom the Press Gang could capture on the way, crowd in upon my backward horoscope. And I recall the noise and tumult and commotion, the humor, and extravagances and absurdities, and the popular protests, expostulations and objurgations, and although at that time ashamed of them, covered by the blue veil of distance they look innocent enough to-day. And Adam Wright was a part of all, and still looks innocent enough to-day. Wright, however, was no wishy-washy character, and, if you scratch him deep enough to-day, you will find in our *Adam* some of the original "red earth," though, being an Irishman, he has none of the original redskin; but, in spite of this, as Dr. Beemer has told you, and I repeat, he was always a "white-haired boy." These "trifles light as air" still echo in the haunts of memory where many more serious occurrences are forever stilled.

"When time, who steals our years away,
Shall steal our pleasures too,
The mem'ry of the past will stay
And half our joys renew.

"There comes to me out of the past
A voice whose tones are sweet and wild,
Singing a song almost divine
But with a tear in every line."

When our student days were ended Dr. Wright began practice in Colborne, and got married, and later went to England

and stayed a couple of years, becoming, meanwhile, a member of the Royal College of Surgeons, and when he returned he settled down in Toronto, in the house which still stands immediately south of Dr. Sheard's on Jarvis Street. It was there he joined a band of youthful and enthusiastic workers in the Toronto Dispensary and the Children's Hospital, comprising Dick Zimmerman and Fred Wright, Fred Grasett, Henry Machell and our two selves, with the addition of Barry Nevitt in 1878, when he returned from the N. W. Mounted Police, which he had joined as surgeon in 1874. And we worked along together with much pleasure and great profit. Adam subsequently joined me in journalistic work in the old *Canadian Journal of the Medical Science,* founded by Dr. Uzziel Ogden, after he abandoned *The Lancet,* and in which Zimmerman and I and others had helped him, and which Dr. Wright still edits as the *Canadian Practitioner,* though his associates are changed. In those days, which are full of happy reminiscences, we succeeded in establishing the Toronto Medical Society, which was the first association of its kind to attain any degree of reliability. Former experiences, owing to the existence of cliques and coteries in a small community, had been so disappointing and unsatisfactory that the older men had abandoned hope of concerted effort, and we younger men were much discouraged by the opinions of our seniors. Despite of this, however, with the hearty co-operation of old Dr. Joseph Workman, Dr. Charles W. Covernton and Dr. James Ross, Sr., and the assistance of Dr. Wm. Oldwright, Dr. McFarlane, Dr. J. E. Graham, Dr. George Wright (Adam's uncle), and Dr. J. A. Temple, and a few others, our immediate elders, we persevered, and the society still exists as part of the Academy of Medicine.

In spite of the fact that I have already taken my revenge to satiety, I must persist to tell you that Adam Wright and I early turned our attention to gynecology and abdominal surgery, stimulated thereto by the remarkable success of Spencer Wells and Knowsley Thornton and Granville Bantock, at the Samaritan, and more particularly of Lawson Tait, in Birmingham, whose devoted disciples we soon became. And in this connection a case recurs to me which was in a local way his-

torical, as it was the first operation in the then new west wing of the T. G. H., which we owed to the munificence of Colonel Gooderham's grandfather, and of his partner, Mr. James G. Worts, and old Mr. Cawthra. It was also the first successful case in a long series. Our friend Col. Gooderham at the high table over there has another connection with it of which he is unaware, for the patient was a member of the household of his grand uncle, the Reverend Ebenezer Gooderham. In those days these operations were not considered child's play, and youngsters did not tackle them. So I went to my old teacher of surgery—than whom no better ever lived—Dr. W. T. Aikins, and I told him of the case and what I proposed to do, and asked him if he would mind giving me a helping hand. To my surprise he said: "I would gladly assist you in anything, but you are not justified in doing an ovariotomy in the hospital. We have nothing but deaths in 'so many' cases." I urged upon him the consideration that I was going to operate in the new wing, and with antiseptic precautions—to which he had not yet become a convert, though, later, after a visit to Lister, he became a most ardent proselyte—but he said, "I think that will make no difference," and he was conscientiously obdurate. Taking counsel then with Adam Wright, my *fidus Achates* of the time, we determined to venture it alone. Accordingly the matter was arranged, and, so great was the interest at the moment, that, the House being in session, all the medical members came to the operation, and I was sorry to observe when in England this summer that the last of these ("first made and latest left of all the knights"), Dr. Joseph Baxter, of Cayuga, subsequently Speaker of the House, has recently gone over to the majority. The operation proved to be the worst of its kind that I have ever seen; a huge cyst universally closely adherent to the anterior abdominal wall and great omentum, the liver and the stomach, whose walls had to be seared with the actual cautery to stop the bleeding, and the anterior abdominal wall plicated on itself and stitched after the method then recently devised by Spencer Wells. Happily, thanks to Lister, to the virgin room, to the patient's lymphatic temperament, and Dr. Adam Wright's skilled assistance and prudent counsel, an uninterrupted re-

covery ensued. And the next four and twenty cases that we had in the General Hospital followed suit; *et lux fuit!* I must not emulate Tennyson's Brook, however. A thousand nights and a night would not suffice to tell the whole tale, and the dull ears of drowsy men are already vexed enough.

The scene is changed; after forty years another generation claims the field, and Adam Wright is retiring now. In an academic sense I feel that I must now say to him:

"Yes, thou art gone! And round me, too, the night
In ever nearing circle weaves her shade.
I see her veil draw soft across the day,
I feel her slowly chilling breath invade
The cheek grown thin, the brown hair sprent with grey;
I feel her finger light

"Laid pausefully upon life's headlong train;—
The foot less prompt to meet the morning dew,
The heart less bounding, at emotion new,
And hope, once crush'd, less quick to spring again.

"And long the way appears, which seemed so short
To the less practised eye of sanguine youth;
And high the mountain tops, in cloudy air
The mountain tops where is the throne of Truth,
Tops in life's morning sun so bright and bare!
Unbreachable the fort

"Of the long batter'd world uplifts its wall;
And strange and vain the earthly turmoil grows,
And near and real the charm of thy repose,
And night as welcome as a friend would fall."

Tempora mutantur, nos et mutamur in illis! The horizontal rays of the declining sun alter the perspective, and in the Hesperian twilight it seems to us that there were giants in the earth in those days. Our masters and teachers attain Heraclean proportions, and we still feel the influence of their magnetic attraction—the invisible force which, no doubt, caused "those subtle minded Greeks" to call the load-stone *λίθος Ἡρακλέια* But in those halcyon days

"Every goose was a swan, lad,
And every lass a queen."

But the dog has had his day, and what says Kingsley now?

"When all the world is old, lad,
And all the trees are brown;
And all the sport is stale, lad,
And all the wheels run down;
Creep home and take your place there
The spent and maimed among;
God grant you find one face there
You loved when all was young."

But a truce to these lugubrious sentiments so fascinating to the Celtic minds on such occasions of change or of departure, and let me in their place offer to the guest of the evening, as one of my oldest friends, and to Dr. R. B. Nevitt, on my left here, as another of equal closeness and duration, and to Professors McPhedran, Baker, Ellis, Van der Smissen and Reeve at the High Table (Tethonus Macdonald, having the gift of perpetual youth, is entirely out of it), the optimistic words of Browning:

"Grow old along with me,
The best is yet to be,
The last of life for which the first was made!"

Adam Wright has been fifty years in the University, having entered in 1862. And what a half century's gestation in the womb of Time, in the history of both his country and his University, has this obstetrician been privileged to "stand by" and "assist" at! Of this future annals will not be silent. He has served, man and boy, under four presidents—indeed, all we have had except Bishop Strachan—and won the favor and affection of all four. I know whereof I speak. Two of these, Dr. McCaul and Sir Daniel Wilson, are no longer with us; but we had hoped, had it not been for the unfortunate selection of the night, to have seen Dr. Loudon, and Dr. Falconer present in the flesh. Their letters of regret explain their absence, and, since it sometimes happens that a private soldier in the absence of his

superiors may act without command, I trust I may be permitted, as a dutiful son of alma mater, void of presumption, to take the words "out of the mouths" of "my most worthy and approved good masters," and to say, in coming to an end, that it is the University's hope and prayer that her good son and faithful servant, Adam Henry Wright, may still have many years of activity and usefulness before him, and that when, at length his "term of life" shall fall "into the sere, the yellow leaf," he may find still about all "which should accompany old age, as honor, love, obedience, troops of friends."

In proposing the health of the guest, the Chairman said that forty years ago there came into the old Toronto School of Medicine a young man named Adam Wright. He came over from the Arts Department, but he brought no airs along with him, and he soon made himself as much at home with the medical students as he had formerly been among the Arts students. He was alert and athletic, and very enthusiastic in football, and was always ready and willing to entertain any of his friends with the foils or the gloves. He was rosy-cheeked and light-haired, and, indeed, he was commonly referred to by his fellow-students as "the white-haired boy," and if at any of their functions anyone would call out "What is the matter with the white-haired boy?" the united response would be, "He's ALL Wright." And the professors also shared this estimate of him, because whenever there was any occasion for intermediation between the students and the faculty, Adam Wright was one of the first delegates selected to present their claims, and he always came back from the interview with the prayers of the students granted. In those days Adam was strong on heredity, and on one occasion when there was a discussion between a number of his fellow-students on the subject of how it came about that he was possessed at once of such sturdy, virile, manly qualities, and at the same time of such tenderness and gentleness, and when those who were discussing the subject were unable to offer a satisfactory solution, it was decided to refer the question to Adam himself, and his answer was, "Oh, that's easy, it is accounted for on the ground of heredity." Asked for further explanation of what the answer meant, he stated that he had made a careful inquiry into the subject of his progenitors, and he found that exactly

one-half of them had been men and the other half had been women.

The Chairman said that a few afternoons before, when he had incidentally mentioned to one of his colleagues in the hospital service that a dinner was to be given to Doctor Adam Wright, his friend observed that "of course it will be held in the Arena, as that is the only place large enough to nearly accommodate the medical friends of Doctor Wright." The friend at once asked the Chairman for his explanation of the guest's immense popularity amongst the medical profession. The answer at once given was that it was his perpetual unselfishness, coupled with his own earnest endeavor to promote peace and harmony and concord amongst the members of his profession; and, thinking it over since, the Chairman observed that he believed that very largely these noble qualities of head and heart were the ones which characterized the guest and made him so much beloved and so much honored by all who knew him. The Chairman said that an observation of Professor Cameron's recalled an incident which was somewhat applicable to the present occasion; the incident was the meeting of two old friends who had been separated from each other for many years. On meeting they greeted each other heartily, one remarking to the other how glad he was to see him, and said that he would like to have two or three years' conversation with him. It seemed that that was about the way with all of the gentlemen present whenever they were speaking to the guest, or speaking about him, because any shorter time than two or three years would be altogether unsatisfactory. Observing this tendency, however, among all of those who had already spoken, and who in that way had relieved him of the necessity of making any allusion to the great qualities of the guest of the evening, he would simply ask them to fill their glasses and drink to the health of their guest.

When the Chairman called upon Professor Ellis to read the ode, he said he was reminded of some lines used by Doctor Oliver Wendell Holmes when he was reading an address before a medical society. The lines were something like this:

> "Why can't a fellow hear the fine things said
> About a fellow when a fellow's dead?"

From what the guest had already heard he was having better fortune than the subject of Doctor Holmes' poem, because he had already heard "some fine things said" in prose, and he was now about to hear "some fine things said" in verse.

The following address was read by Dr. J. T. Fotheringham:

To Professor Adam Henry Wright, B.A., M.D., M.R.C.S. Eng., etc., Toronto.

Dear Sir,—

We, whose names appear hereunder, on our own behalf, and in the name of your colleagues in the University of Toronto, your friends and former pupils, and the Medical Profession at large, desire to express and place on record our high appreciation of the services you have rendered as a Teacher, as a Practitioner of The Healing Art, and as a Citizen, alike to the University, the Profession and the Public, during the nine and thirty years which your professional career has so far smoothly run.

We salute you as one of the pioneers in the once rough field of Abdominal Surgery, and in Pediatrics in this country, as well as a most successful teacher, author and practical exponent of the Ars Obstetrica; and we recognize, with gratitude and admiration, the wide and beneficent influence which you have exercised in these and other respects on behalf of the whole people.

We specially remember, too, how constantly, in matters pertaining to the University, and in Professional intercourse, your precept and example have conduced to the promotion of good will, and the amicable adjustment of divergent views and interests. Among Medical Editors in Canada you have long been *doyen,* and your prolonged and honorable service to the body medical in this capacity, demands mention and acknowledgement, as does also your briefer tenure of the post of Chairman of the Provincial Board of Health.

The close this year of the history of "K" Company, Q.O.R., reminds us that as a member of that military organization, which suffered more severely than any other on the field of Limeridge, you have maintained the honor of your College

and your country in active service. For these stated reasons, and many more unexpressed, we heartily pray that Lucina and her sister deities, Porrima and Postvorta, and all their train, may long attend your path, to and fro the Porta Carmentalis, as you go out and in among us. For we rejoice to know that although you are retiring from the professional duties of the Chair which you have so long adorned, you are to remain among us, actively participating, as heretofore, in daily practice, and in all else that pertains to the advancement and welfare of Medicine and her devotees. *Vive valeque atque salve, et quem eors, dierum cunque dabrit, luero appone!*

Dr. E. E. King then presented Dr. Wright, on behalf of the committee, with a solid silver tea service.

Dr. Wright, on rising to reply, was received with an ovation such as has rarely been accorded to any man on a similar occasion. He said, in part:—I realize, I think, gentlemen, the honor you confer in tendering me this banquet. I have to confess, however, that I have for some days looked forward to this moment with a considerable amount of dread. Up to the present time this evening I have felt something like a certain Mr. Jones who attended a funeral many years ago. It was the custom in Mr. Jones' neighborhood for both women and men to attend funerals. At the proper time the director of ceremonies told Mr. Jones that he would have his mother-in-law as his companion. He hesitated a little, sighed, and then said: "Well, if you say so, I suppose I must, but it will spoil the whole show for me."

I have always thought that, as a rule, nothing is more uninteresting than to listen to a man talking about himself. And yet I am impelled to do a little of it this evening. My entrance into the world was considered a very important event among the Wrights and Webbs. I was the first in my generation on both sides of the house—having twelve uncles and aunts on the Wright side, ranging in age from three months up to twenty-one years, and eight uncles and aunts on the Webb side, ranging in age from four years up to twenty-one years. Considering these figures you will readily understand me when I say the

customs and habits of the Wrights in those times were to marry young, and have large families. Such customs and habits are not now much in evidence in the Wright family.

After receiving my preliminary education in two private schools, I commenced attending lectures in University College in 1862. My course in Arts was rather uneventful, but I formed in these years some very dear and enduring friendships. It gives me very great pleasure to have a few of these dear fellows here to-night.

Soon after graduating, I discovered that I was practically penniless, and would have to depend on my own resources. There were some very dark days while I was seeking for some honest employment. After a time I obtained employment in a registry office at a salary of five dollars a month and board. Soon after I was appointed head master of the High School at Trenton. The trustees had appointed me without seeing me, and when I arrived in the town I was considered a sort of a joke. Although I was nearly twenty-one years of age when I was appointed, I looked about sixteen. Many of the boy pupils were big fellows—much bigger than myself, and said to be "hard to manage." Many of the girls were grown up, and very good looking, which latter fact caused me considerable embarrassment. The general opinion was that I couldn't even commence to control my pupils, and that I wouldn't last a week. Well, I had my trials and difficulties, and one contest so serious that I had to win absolutely, or retire; but I won. I was treated with wondrous kindness by the citizens of that town. One man was especially kind, and on two separate occasions told me that if during my medical studies, or when commencing practice, I required any money, he would let me have what I wanted. Shortly before graduating I went to see him. I didn't, however, ask him for money; I asked him for his daughter, he gave her to me, and I have her now.

I commenced my regular medical course October 1st, 1869, in the Toronto School of Medicine, and graduated M.B., from the University of Toronto, in 1873. Those student days in Medicine were the most pleasant I have ever spent in any

efforts to acquire knowledge. I was on very intimate terms with certain young practitioners of Toronto, such as McFarlane, Oldright, Reeve, George Wright, and Graham, whose society I enjoyed much. Among my fellow-students, two of those I loved very dearly, Fred Wright (Irving Cameron's brother-in-law) and Dick Zimmerman, passed away many years ago. Among the other students of my time were Wagner, who, on account of illness, was not able to come here to-night, and Beemer, Cameron and McPhedran, who are with us now. I have a great many pleasant recollections of my student days in the old Toronto School of Medicine and the Toronto General Hospital.

After graduating I practised in Colborne, Ont., for about three years, and then engaged in post-graduate work in London, Paris and Dublin for fifteen months. I passed the examination for membership in the Royal College of Surgeons, England. I came to Toronto in 1877, and commenced practice at 312 Jarvis Street, October 1st. I became associated with the Toronto School of Medicine in 1878, and was its acting secretary, and practically its manager, until the Medical Faculty of the University of Toronto was established in 1887. My relationships with the students were remarkable, perhaps unique, from 1878 until 1892, when I ceased to act as secretary of the University Faculty. During these years I knew all the students personally, and entertained a certain portion every session in my house. Dr. King, in presenting this beautiful silver service, has referred in a very kindly way to those entertainments. I may say that during all those years I enjoyed my intimacy with the *boys* very much. I was their father confessor. I knew all their secrets, and I sympathized with them in all their troubles. The results were remarkable, and came to me, who expected nothing, as a tremendous revelation. Those young men, whom I treated with ordinary courtesy, have been since they graduated, and are to-day, almost without exception, warm and devoted friends of mine. In my travels in recent years I have met them in all parts of Canada, from the Atlantic to the Pacific, and many districts in the United States, in Eng-

land, Ireland and Scotland, and I shall expect to meet some of them when I go to the West Indies, Australia and New Zealand.

It is impossible for me to give you any idea of my appreciation of the kindness of the medical profession of Toronto towards me and mine during the last thirty-five years. The dear, sweet friendships which have been formed appear to me to be the greatest assets I now possess. I am pleased to think in this connection that many of my dearest friends are men much younger than myself. It will continue to be my aim and endeavor to cultivate new friendships among the young men so long as I am permitted to labor among you.

With reference to this banquet, I feel very much like my friend McNaught, to whom was tendered a banquet in the National Club not long ago. I regard it very much as I do the cherry in the cocktail. I like the cherry, but I like especially the spirit in which it is given. As I understand the matter, this banquet is tendered to me now because of my recent retirement from active work in the Medical Faculty of the University of Toronto. As there has been some misunderstanding as to the situation, I may tell you now, definitely, that I sent in my resignation shortly after the close of last session, and it was accepted about two weeks ago at a meeting of the Board of Governors, held November 14th. My reasons for resigning will not be stated now; but I may say, incidentally, that I desire in the future, to spend most of my time, and most of my energies, in connection with my private practice.

I have taken great interest in matters pertaining to medical education for a long time, and I shall continue to study the subject in the future. Many and varied have been the discussions on this question during the past thirty years or more in all parts of the civilized world. It is interesting to consider that similar discussions were carried on over two thousand years ago. Alexander the Great, the boy king who ascended the throne of Macedonia at the age of twenty, B.C. 336, was not only a great warrior, but was also very fond of art and science. Under the tutorship of that wonderful man, Aristotle, he took great interest in art and literature, natural history, and comparative anatomy.

Within about five years he had practically conquered the world, and he then conceived the idea of making Alexandria, at the mouth of the Nile, the great city of the world, the centre of commerce, industry, civilization and intellectual life. After his death, at the age of 33, B.C. 323, his great empire fell to pieces, almost in a day, but art and science, which he had encouraged and fostered, lived after him. Egypt became only one of the kingdoms of the shattered empire, but she was for more than four hundred years the centre of intelligence and culture for the whole civilized world. The cultured Ptolemies, who were originally Greek, became the rulers of Egypt.

About 33 years after the death of Alexander, B.C. 290, Herophilus, the most scientific and most popular physician living, a devoted follower of Hippocrates, founded a medical school under the patronage and with the assistance of the Ptolemies. He endeavored to carry out the Hippocratic methods of teaching and, in addition, to pay greater attention to the sciences, especially human anatomy, comparative anatomy, physiology, chemistry and botany. The Ptolemies erected great buildings, established huge libraries, immense museums, and large botanical gardens. The ruling princes even dissected to make respectable a work which before had been considered vile and "godless." Hippocrates attached the greatest importance to acute observation and careful interpretation of symptoms. The great school flourished for a time, but after the death of Herophilus gradually neglected the cardinal points in the teaching of Hippocrates, lost ground, and finally died, apparently of senile decay, about four hundred years after its foundation, i.e., A.D. 100.

About ten years after the foundation of this great medical school, Erisistratus founded a rival school. While the other richly endowed school was retrograding and neglecting what we call bedside instruction, the new school became thoroughly imbued with the Hippocratic ideas as to the importance of observation and the study of symptoms. This was remarkable, inasmuch as the teachers in the old school claimed to be the true followers of Hippocrates, and probably were for a short time.

while the teachers of the new school were for a time inclined to sneer at everything Hippocratic. The new school became aggressive, and was considered to be essentially practical. Its teachers had evidently more common sense and sound judgment than those of the other school. It was in a very flourishing condition while the other was dying.

The third Alexandrian school was known as "the school of the empirics," whose whole practice was "based on experience." They rejected anatomy because they considered it useless. And yet they were not generally ignorant, and many of their methods were Hippocratic. It is remarkable that this new school, which almost ignored the sciences, and had practically no financial assistance, continued in existence something like twenty years after the old respectable school had closed its doors. And, moreover, for a long time it was exceedingly popular with the general public.

The history of these three schools is exceedingly interesting, and is worthy of our careful consideration at the present time. We have a Faculty of Medicine in the University of Toronto, supported in a very generous way by the Ontario Government. We have studied very carefully the various methods of medical teaching. We have endeavored to combine the practical with the scientific, and we think the prospects for the Faculty are bright. W cannot be certain, however. Let us endeavor to learn the lesson which comes to us from the Alexandrian schools. The wealthy, respectable, orthodox, scientific school went to the wall, while its supposedly less fortunate rival forged ahead. Even the poor, unscientific school of empirics was for one or two centuries far more popular than the state-endowed institution of Herophilus. It is possible that history will repeat herself in future centuries. Will the Medical Faculty of the University of Toronto die from senile decay or scientific dry rot within the next century or two? Will there be a flourishing school of osteopaths within the next fifty or one hundred years as popular in Ontario as was the school of empirics in Egypt two thousand years ago?

Well, now, gentlemen, I must say that my greatest difficulty

is to find words to express my gratitude for this magnificent demonstration. However, I have decided that I can best express my feelings by one word, a word I learned at my mother's knee, a word that has been of immeasurable service to me during my whole life—that plain, dear, simple, good old English word—*thank* you.

How pleasant such an evening can be, and how happy the parting thought of all that, although the "book may close over," it is not because "all the lessons are said."

W. A. Y.

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Original Contributions

SOME IMPRESSIONS OF THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA

BY J. MILTON COTTON, M.D., C.M., M.R.C.S., ENG., L.R.C.P., EDIN., TORONTO.

While attending the recent meeting of the Clinical Surgeons of North America, one was much impressed with the great amount of work done, and the practical manner in which it was shown. The unlimited amount of clinical material in New York City gave the local men great opportunities to show their skill. The attendance was the largest yet—about twenty-six hundred—and the daily programme was printed, so that you could make your choice of work at 8 o'clock in the morning, and the various sections were then chosen by the members to attend.

There is one thing about the New York men—they are certainly up-to-date as regards equipment and technique. They seem to have plenty of money at their command, and when anything is required, all they have to do is to ask for it.

Perhaps the subject to which was given the most attention was introduced by Mr. Arbuthnot Lane—on Intestinal Stasis, a subject that has been disturbing the medical and surgical world, more particularly during the past year. To Mr. Lane must be given the credit of creating the great interest that has been taken in the subject.

The question of auto-intoxication is a very old one, and one must conclude that, as far as the administration of medicine has been concerned in the past, it has not been a success, owing, I think, to the fact that a proper diagnosis of each individual case had not been made.

Mr. A. E. Taylor states: "That there is an element of fashion, personal or collective, in the manner in which the

obscure conditions of disease are interpreted. The progress of the auto-intoxication propaganda, like every other uncontrolled movement in practical medicine, is like the developing of gossip in common life: the first person suggests that it might be so—the second states that it is so. The serious aspect of the situation lies in the fact that a positive diagnosis, however fictitious, inhibits investigation."

Metchnikoff, of France, who has been working on the lines of medicinal treatment by anti-ferments for some years, goes very much further than Mr. Lane, in saying that many more diseases may be ascribed to this cause.

The question of indigestion, so-called, I believe resolves itself into the various pathological conditions found from the esophagus to the rectum, and these include—gastric ulcer, pyloric stenosis, duodenal ulcer, adhesions at the pyloric orifice, the various diseases of the gall bladder and liver, pancreatitis, appendicitis, and the kinking in the intestine at the various points of fusion, which includes mobile cecum, right and left-sided and mid ptosis. That being the case, then the treatment of indigestion must necessarily be surgical.

Another subject of extreme interest and use to the operative surgeon is intertracheal anesthesia. This method of the giving of anesthetics is to be commended for prolonged anesthetic operations on any part of the body. And it is most useful for operations on the neck—such as thyroid glands, and for operations about the face and neck. This method has solved the problem of the operation for goitre, inasmuch as it does away very largely with the venous congestion accompanying the ordinary form of anesthetic. The administration of the anesthetic by this means does not interfere in any way with the operation about the neck or face; a tube is simply passed through into the bronchi, and the anesthetic is administered directly into the lungs. They claim for it that there is less reaction afterwards, less vomiting, and less shock. The chief objection to it is the rather complicated instrument, which costs in the neighborhood of $250, the tube of which has to be inserted with the bronchoscope. All the hospitals in New York have this equipment, and use it in suitable cases.

Then there is the subject of spinal analgesia, which is being used so largely in suitable cases. The disadvantage of this is the fact that the patient is conscious of what is going on, and in this way many of them suffer from fright, and consequently their brain is in no condition to withstand shock. The technique is being improved, and possibly it may not be very long until it is in very general use.

The technique of abdominal operations for the cure of various pathological conditions found in the human being is greatly improved. The closing of practically all wounds, whether septic or tubercular, has shown a marked improvement in abdominal and kidney work. Tuberculous kidneys, that heretofore were always drained, and this drainage followed by fistulas—which sometimes lasted for years—are now closed after filling the wound with salt solution, and they almost invariably heal.

The same may be said of appendiceal abscesses, which were formerly drained, but which are now closed; and it is surprising how few of them ever show anything other than a skin infection. In all cases there is a tendency to open the abdomen opposite the seat of trouble, and the choice of incision is a varied one. The most popular incision for lower abdominal and pelvic work is the Pfannensteil incision, which is made horizontally across the lower part of the abdomen. The skin and fat of the upper flap afford a certain protection to the intestines during the operation, that less lateral retraction is required to expose the contents of the pelvis, because of the division of the resisting aponeurosis; but what is of most importance is, that post-operative hernia is less apt to occur than by the classic incision. The recti muscles are of positive service in keeping tension off the wound through the aponeurosis.

The line of incision is blended with the natural curve or crease in the abdomen, and, from a cosmetic standpoint, is not nearly so objectionable. This incision is also of great advantage in cases where the old mid-line incision has been performed before, as it is not necessary to remove the scar only at the point at which you cross it.

I have been using this incision for the past two years, and

have had no cause to regret it. It requires a little more time to close than the mid-line incision, but the subsequent result is far ahead of the old one. The comparatively recent operation of lipectomy is mostly done with a cross incision.

The transverse incision is made through the aponeurosis, extending between the outer borders of the recti muscles. The aponeurosis is then detached from the recti muscles, both above and below the incision, and all bleeding points are ligated. The recti muscles are now separated, and the peritoneum is opened. As in the mid-line incision, the detachment of the aponeurosis from the recti muscles must be free to afford the necessary room for the vertical incision. The wound is closed up, suturing the peritoneum with a continuous catgut suture, and this same suture may be used to bring the recti muscles together and tying it to the end where the former started.

The upper layer of the aponeurosis is then fastened with mattress sutures; eight or ten of them may be used; then drawing the lower flap under the upper one. Then a continuous suture is stitched along the free border of the upper aponeurosis to the lower flap, making a quarter of an inch of over-lapping. This makes the abdominal wall absolutely solid, and is the same as is used in the original operation of Mayo's for large umbilical hernia.

The fat is then drawn together by continuous sutures so as to close off any space and to avoid any tension on the skin. The skin is then brought edge to edge by a continuous mattress suture. Dry dressing is applied, and over this adhesive strips to keep the dressing in its place, otherwise the wound, being low down, becomes exposed by the movement of the patient. To assist in this I always use a double spica bandage, four inches in width, of white flannel, and over this several strips of adhesive plaster, running parallel with the body, keeping the bandage in absolute apposition, and in this way avoiding infection from the outside.

The wound is not examined for eight or ten days, when the silk worm gut suture is removed, and the wound is then covered with collodion dressing.

Lipectomy is an operation that is now beyond the experi-

mental stage, and is found to be very useful in certain conditions of pendulous abdomen with an excessive amount of adipose. The operation is done by making an elliptic incision—one incision commencing at the ant. sup. spinous process and ending at the other; one incision curved upwards and the other curved downwards. The skin and fat are dissected off down to the aponeurosis, and then the skin is undermined around its edges by taking off as much fat as is deemed necessary.

If the abdominal muscles are very pendulous, restoration of the abdominal wall can be overlapped by making an elliptic incision into the aponeurosis, and overlapping this with mattress sutures and fastening the free edge over as above described. In this way you will restore the normal shape of the abdominal wall. Care must be taken, however, not to unduly reduce the abdominal cavity.

GYNECOLOGY AT THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA

BY FREDERICK W. MARLOW, M.D., C.M., F.R.C.S., ENG., TORONTO.

The clinical congress at New York provided an abundance of material for the gynecologist. A very large number of operations were performed at the various hospitals, and their relative merits were ably discussed.

In all clinics the surgeons were most courteous and cheerfully endeavored to impart as much useful information as possible to those in attendance.

Many of the operations performed were the classical ones that have stood the test of time, and which always arouse the interests of the general practitioner as well as of the gynecologist. The interest of the latter, however, was most keenly aroused by the multitude of plastic operations and the multiplicity of methods in their performance.

Operations for retro-displacements of the uterus were demonstrated at almost every clinic. A few adhered to the modified Alexander operation in the absence of adhesions but the intra-abdominal operations upon the ligaments seemed to be most favored. Of these the method of ventro-suspension of the uterus by the round ligaments after the method of Gilliam seemed to be most often used, and to all intents in accordance with the original.

Since the introduction of Gilliam's operation the most important modification has been the obliteration of the spaces that the original operation leaves between the outer segments of the round ligaments and the abdominal wall, the object being to obviate the possibility of hernia through them. Although Gilliam claims that, owing to the patency of these spaces and the resiliency of their boundaries, the danger of hernia and strangulation is remote, the writer has always felt that their closure is an additional safeguard and that the extra time required in the performance of the modified operation is well spent. Besides, in carrying out this part of the operation it is

often advantageous to shorten the anterior layer of a relaxed broad ligament.

It may be worthy of note that the old operations of ventral-suspension and ventral fixation of the uterine body, both anatomical and physiological monstrosities in their day, seem to have been entirely abandoned in favor of the various forms of plastic operations upon ligaments which are normally present.

Adequate repair of the pelvic floor is an essential part of most operations for retro-displacements in women who have borne children. This was accomplished by modifications of the flap-splitting and the denuding operations, apparently, almost as numerous as the surgeons performing them.

A great variety of operations were performed in cases of prolapse of the uterus, and especially in the presence of a cystocele. In many cases the indications were met by an anterior colporrhaphy and a perineorrhaphy, preceded, if necessary, by repair or amputation of the cervix, and followed by an intra-abdominal plastic operation on the ligaments.

It is generally recognized that in cases of prolapse the most difficult feature to deal with successfully is the prolapse of the anterior vaginal wall with a cystocele present.

A brief description of two of the more recently developed operations, which the writer, owing to the courtesy of Dr. Barrows, operating at the Bellevue Hospital, in the first instance, and of Dr. Bandler, operating at the Post-Graduate Hospital in the second, had the opportunity of observing at close range, may be of interest in this connection.

In a combined abdominal (Polk's) and vaginal operation, after opening the abdomen, the patient was placed in the Trendelenburg posture, the intestines were packed away and the uterus freed and elevated. The peritoneum on the anterior surface of the body of the uterus was incised transversely and the bladder was widely separated from the front of the uterus and the upper part of the vagina. Two or three interrupted sutures of kangaroo tendon were then passed into the antero-lateral parts of the vaginal walls, including also some of the anterior fibres of the levator ani muscles, in such a way as to approximate them in the middle line and in front of the lower

uterine segment. The effect of this procedure was to shorten the anterior vaginal wall and to strengthen the anterior part of the pelvic floor and so support the bladder.

Its tendency to cause retroversion of the uterus was met by shortening the round ligaments. The peritoneum removed from the uterus was replaced and the abdomen closed. The posture of the patient was then altered and the posterior part of the pelvic floor was repaired by a perineorrhaphy.

The surgeon performing the operation claimed a marked degree of success for it. It is by no means an easy operation to perform, in its abdominal part, and the passage of the elevating stitches may be attended by considerable venous hemorrhage, which, however, usually ceases when they are tied.

The other operation (Dührssen) was performed by the vaginal method. With the patient in the perineal position and the vagina thoroughly cleansed, the cervix was drawn out of the vagina by tenacula. A transverse incision was made through the vaginal wall in front of the cervix and the bladder was separated from the lower uterine segment. The anterior vaginal wall was then incised medially as far as the urethra. Following this, the vaginal flaps marked out by this incision and the former transverse one were dissected outwards away from the bladder. The bladder was then further separated from the uterus in its upper segment and the peritoneum joining them was incised transversely between two forceps. A retractor was then placed in the opening and the bladder held forward. Grasping the front of the uterus with a series of tenacula from below upwards and at the same time pushing the cervix upwards towards the hollow of the sacrum the body of the uterus was delivered into the vagina, below the bladder. Three or four stitches of No. 3 chromic catgut were then passed, first, through the vaginal flap on one side, then into the anterior wall of the uterus and through the vaginal flap of the other side, emerging as at the point of entrance, about one inch from the edge. These were left untied until a later stage of the operation, so as to allow the uterine body to recede while the cervix was dealt with. The cervix was then pulled down for amputation. The posterior and lateral vaginal walls were incised, meeting the anterior

incision and were pushed away from the cervix. (At this point of the operation in cases where there is much bulging of the peritoneum owing to hernia behind the uterus, the peritoneum is opened, the contents displaced upwards, and the sac shortened by removal of a portion of the peritoneum, and then it is closed again). The cervix was then cut off supravaginally and by a circular method. Beginning medially behind and going forward on alternate sides with interrupted chromic catgut sutures, the vaginal walls were sutured to the uterus, the edges being approximated to the canal in such a way as to cover the raw surface. Arriving at the front the lower end of the uterus was allowed to recede while the fixation stitches were made tense. This brought the body of the uterus down again into view. The bladder was then carefully pushed up above it, the redundant portion of the vaginal flaps cut away, and the fixation stitches tied, while the edges of the flaps were approximated. A few further, superficial stitches were placed in the vaginal wall and a small gauze wick for drainage of any oozing blood was inserted just in front of the uterus.

Following this the posterior part of the pelvic floor was repaired by a modified flap-splitting perineorrhaphy, the redundant portion of the posterior vaginal wall being removed.

As pointed out by the surgeons, this operation, which has been attended by a large measure of success, is limited to cases in women who have passed the child-bearing period or for some other reason are sterile or are made so. It is admitted that a small proportion of cases in which the tissues are very relaxed may relapse, but there is little doubt that the operation is a most useful one in suitable cases.

417 Bloor Street West.

WHAT I SAW AND HEARD AT THE CLINICAL CONGRESS IN NEW YORK

JOHN HUNTER, M.B., TORONTO.

THE recent Surgical Congress held in New York, November 11 to 16, was notable in many ways. The attendance was large, numbering about three thousand. Leaders of national and of international repute were the chief attractions at the evening meetings, which were held in the palatial ball-room of the Waldorf-Astoria, and at the hospitals where clinics were given from 8 a.m. to 5 p.m. But it was not in the large attendance, nor in the rank of those who took part, that was to be found the vital factor that assured the success of the Congress. In science, as in physics, the greater forces are the silent ones. Numbers, leaders, a full treasury, are only incidents in assuring the success of a medical convention, for selfish or sinister motives may annul the effect of all these. The vitalizing energy must be sought in the attitude of those in attendance. This was emphasized by nearly all the speakers at the opening meeting. The keynote was service—the acquisition of knowledge to be consecrated to the service of humanity—the recipient always to receive greater value than the physician—and to the elevation of the science and practice of medicine to a still higher standard.

Drs. Ochsner and Jacobi broached a very interesting subject, *viz.*, "The Standardization of Medical Procedure." When we think of the strict limitations in other callings, *e.g.*, theology, law, teaching, is it not surprising the liberty allowed in medicine? The clergyman is circumscribed by the creed of his church, the lawyer by legal statutes, and the teacher by the regulations of the educational department, while the physician or surgeon is left to exercise the freedom of his own will. He can place the patient at the risk involved in the use of a most poisonous drug, or to the effect of a very hazardous operation. The history of medicine furnishes too many instances of how this liberty has been criminally abused. A legal standardiza-

tion of medical procedure would help not only to eradicate much obnoxious drugging, but also restrict surgery to legitimate and less hazardous operations. If the preacher is not allowed to do violence to his creed, the lawyer to legal statutes, or the teacher to regulations, why should the physician or surgeon have a free hand in dealing with the human body? Surely, in all the centuries that have "come and gone" since the time of Hippocrates, the science and the art of medicine have reached that stage when it is possible to so standardize medical procedures as to provide a clear line of demarcation between legitimate and illegitimate methods of treatment! What is the new Dominion Medical Council going to do about it?

Another most interesting feature of the Congress was the hospital clinics. The daily bulletin—a large four-page sheet—furnished the programme for each day, so that every member of the Congress could gratify his tastes in any special line of surgery. Leaving for others to deal with the major operations, the writer will confine this article to a few brief notes of interest to the general practitioner. In regard to the functions of the liver, *viz.*, digestive, glandular secretion, and metabolic, it was stated that these were replaceable. Detoxication of proteids was also performed in the walls of the small intestine. Obstruction of the portal circulation does not prevent the digestive function of the liver. It seems, then, from what surgery teaches in regard to the functions of the liver, that when these are perverted, the physician must direct attention to the gastro-intestinal tract for compensation. Surgery of the spleen has revealed two or three important facts: 1st, That the spleen develops very early in embryonic life, and has much to do with the propagation of white-blood cells. If from injury, or other cause, its function becomes perverted, leukemia and splenic anemia may develop. In regard to constipation, a distinction was drawn between it and chronic stasis. The latter was defined as a delay in the transmission of the intestinal contents, independent of whether it is accompanied by constipation or not. The intestinal tract was referred to as a sewer system. Germs may prove useful citizens in one part of the tract, but very obnoxious ones when transported to another district. Discoloration of the skin,

anemia, cirrhosis of the liver or kidneys, exophthalmic goitre, cancer of the breast—any of these may end in "chronic stasis." Two lines of treatment were suggested.

The patient, for an hour after each meal, was to lie on his back with a firm pillow under the chest. The object in this position is to draw up the abdominal walls by inclining the shoulders backwards. This upward pressure of the abdominal walls would help force the stomach and colon into their normal positions,—the patient to change to the prone position and later to the knee-chest one. The second form of treatment was surgical, either removal of the colon or short-circuiting the small intestine with the sigmoid flexure.

Tonsillectomy-Adenectomy. It must have been a genuine surprise to many of the visitors—who for years had been following the practice of removing, at their offices, or at the patient's home, and without any competent assistant, whatever portion of the tonsil that could be encircled by a tonsillotome—to witness the removal of tonsils and adenoids in the hospitals of New York. The operation had all the hall-marks of a major one—a specialist, two or three qualified assistants, and as many trained nurses. The anesthetic was sprayed into the mouth, through the mouth-gag. The blood was drawn from the throat with a suction tube. The tonsils were either partially dissected out and then removed by a snare, or completely enucleated by a spoon-shaped dissector. Adenoids were removed by either forceps or curette. When we know that asphyxia, syncope, or alarming hemorrhage may complicate operations on tonsils and adenoids, as suitable a place, and as competent assistance, as possible should always be provided. The operators worked deliberately, electric head-lights were used, and the site of operation kept free from blood.

In several operations on the mastoid it was shown how insidiously destruction of the mastoid cells may take place. All signs and symptoms usually found associated with involvement of the mastoid antrum and cells may be absent, and yet when opened these may be found full of pus, and even the wall of the lateral sinus exposed to infection.

In conclusion, a very brief reference may be made to the

following proposition that came up before the Congress, *viz.*, "That before a medical man could announce himself as a surgeon, a special post-graduate course and an examination be taken." This proposition will doubtless cause some perturbation in our ranks, for every graduate will claim that his license entitles him to practice surgery if he wish to do so. It will also be asked why single out the surgeon, and allow the physician to escape? Why place surgery on a higher plane than medicine? The proposition either goes too far, or not far enough. If carried out it should include all specialists.

NOTES ON THE GENITO-URINARY SURGERY AT THE CLINICAL CONGRESS

BY CHARLES H. GILMOUR, M.B., TORONTO.

Once more the Clinical Congress of Surgeons of North America has met and dissolved. The name looms large, much may be expected, and not in vain. The visitor's first concern is to separate the wheat from the chaff.

Men of undoubted merit are doing magnificent work for humanity, while rubbing elbows with them the hot-air artist in his operating clothes shoots volumes more amusing to reflective minds than the average New York Cabaret.

After viewing the cystoscopic work in several of the hospitals one finds the indirect instrument is universally used. In New York the direct cystoscope is an instrument of the past. The most popular cystoscopes are the Wappler, the Brown Buerger, and the Nitze improved. They all allow irrigation through the sheath, have cold lamp and a pair of catheter tubes with deflector. The kidney tests they rely on most are the indigo-carmine and the phenolsulphonephthalein for the functionating capacity of the kidneys and the phloridzin sugar test.

One of the best features was Squiers' cystoscopic work at the Post-Graduate Hospital. In his work he does not use any local anesthetic, but by his gentleness and dexterity is able to introduce the cystoscope into any patient with scarcely any pain. One afternoon he cystoscoped eight out-patients as they came to the clinic, using no anesthetic in the urethra, and by having them open their mouths and take deep breaths passed his instrument through the prostatic portion and into the bladder without any difficulty and practically no pain to the patient.

One can see a great variety of kidney work at Brewers' Clinics at Roosevelt, and at Abbes, at St. Luke's, one sees very fine work. One does not see the flurry, rush and excitement in their operating rooms that one sees in some of the hospitals a

little further down town. Their technique is fine, and their operations done thoroughly and quickly, but with no undue haste. In their nephropexies time and pains were taken to strip the capsule at least half-way back to the hilum, and the kidney is then held as high up as possible under the ribs by suspension sutures through the capsule and parietal muscles and the wound closed. At the Post-Graduate Hospital Morris' great object appears to get the patient back to bed. He continually watches the clock, and talks about "giving the patient back to himself and his factory for manufacturing phagocytes." In his nephropexy he simply slits the capsule, puts in a couple of sutures, plugs in some gauze under the kidney, allowing it to remain almost any place, and hurries the patient back to bed, trusting that the adhesions caused by the gauze packing will hold the kidney firmly somewhere.

Another interesting clinic was Chetwoods' galvano-cauterization of the prostate with partial prostatectomy. He has the patient prepared as for the perineal operation and makes the usual perineal incision. He then has a stream of cold water course through the urethra and out of the perineal wound while the burning is being done. Through the perineal incision he introduces his cauterizing instrument into the bladder and turns it to hook over the prostate in the required direction. He introduces a finger into the rectum to feel the position of his instrument and to press on the prostate. The cold water is allowed to flow slowly and the electric current turned on, and after about five seconds being allowed for the knife to become heated the instrument is slowly withdrawn from sixty to ninety seconds being employed in drawing it out and about fifteen seconds for its return. In this way he divides the tissues and removes the portion of the prostate intended. A double current perineal tube is inserted and the after-treatment the same as for perineal prostatectomy. About the only advantage of this operation is the small amount of hemorrhage.

One noticeable thing in New York is that almost every surgeon has one pet operation usually devised by himself, and which he seems to feel is the solution for the relieving of all diseases. Reminds one of Mr. Lane's address at the Academy

a few weeks ago on chronic intestinal stasis, when he told us of his wonderful cures by short-circuiting the bowel. Eugene Fuller has a pet which he calls seminal vesiculotomy, his cure for chronic vesiculitis and prostatic trouble. By this operation the urinary troubles so dreaded by old men fade away. He makes two incisions, one on each side of the anus, just inside the ischii, starting from a little above the upper border of the coccyx and extending to about three-quarters of an inch anterior to the anterior margin of the anus. These two longitudinal incisions are joined by a transverse incision, care being taken not to wound the sphincter ani muscle. The dissection is continued deeper, cutting through the levator ani muscle and the visceral layer of the pelvic fascia. By blunt dissection, using the handle of a knife or his finger, he works a path over the prostate and then strips the loose rectal connections from the seminal vesicles and the posterior bladder wall. The vesicles being exposed, they are opened by a free longitudinal incision and their cavities thoroughly curetted. A cigarette drain is then packed into this cavity and the wound closed. This drain is withdrawn in from two to five days and a small tube inserted if necessary.

FRACTURE TREATMENT AT THE CONGRESS

BY N. A. POWELL, M.D., TORONTO.

In no department of Surgery has greater advancement been made within recent years, than in those procedures which have to do with diseased, with injured or with transplanted bone. Naturally, then, the members of the Third Clinical Congress expected to see a goodly number of operations involving the osseous system, and in this they were not disappointed.

In the city where Dr. Alexis Carrel has of late been doing such marvellous things with tissues, hard and soft, recent and ancient, many novel and aggressive operations were undertaken. Two of these may be given in outline.

Dr. Brickner, at Mount Sinai Hospital, presented a man for whom, five years previously, the shaft of a humerus had been removed, for osteosarcoma. To give him some use of the forearm and hand, an apparatus had been devised, which made him, so far as the right arm went, a crustacean, instead of an articulate animal. The surgeon uncovered the front of the left tibia, and with osteotomes, drills and Gigli saws, removed the anterior part of its shaft for about nine inches. He then dissected out the ends of the humerus, left at the previous operation, rimmed these ends to receive a piece from the tibia, and made a bed for it in the position normally occupied by the humeral shaft. In a somewhat similar manner Dr. Wyeth, at the Polyclinic, removed a portion of a rib and utilized it to fill in a gap left in one of the bones of the forearm. It remains to be seen what will be the real gain in these cases, but they serve to illustrate how far surgery has progressed from the time when amputations were the rule and other procedures the exception.

Mr. Lane demonstrated at one clinic the application of his plates to ununited fractures of the radius and ulna. His perfect technique and his modest bearing won deservedly high comment from every one in an over-crowded amphitheatre. At Bellevue, Dr. Walker showed us a series of cases treated most successfully, by Lane's methods. In the hands of experts,

these methods have a minimum of risk and a maximum of utility. But all who are to-day attempting to use the plates are not in the expert class, and their results also came under the observation of the writer of this note. What will be thought of three amputations, which became necessary, or of two deaths, which followed the plating of simple fractures, within the last few months?

Dr. J. B. Murphy stated one day that just before he left home the solicitor of a large accident insurance company had said to him that the profession would not long have sufficient funds to pay the damages which would be awarded in suits brought because of the failure to maintain asepsis in cases where open methods of treating fractures had been resorted to. Surely the plates are being thought of too early and too often. If the writer's personal experience counts for anything, the occasions for their use are not of daily occurrence. He learned something of the treatment of fractures, under that great master, Frank H. Hamilton, in Bellevue, more than thirty years ago, and to-day can count on the fingers of one hand all the simple fractures of which he has had charge from the beginning, and which he now thinks would have been the better for having been plated. At the Hudson St. Hospital, where a dozen or more fractures are often admitted in a day, steel plates are seldom used in fractures, other than compound, and the results in the hands of such men as Drs. Murray and Pool are excellent.

Occasionally we got into a draft of hot air, which blew rather steadily from certain clinics. Occasionally, also, we witnessed the inordinate exploiting of individual fads. These last were of value as emphasizing what should be avoided in surgery. When, for example, we saw a fat abdominal wall opened by repeated stabs and snips of a pair of scissors, and the peritoneum severed by pushing the scissors through and opening their blades, we got a baptism of contentment with the exact methods under the direction of the eye, which, like other sensible people, we constantly employ. Speaking generally, the Congress was a splendid success, and the Ontario delegation had but one regret—that is that a still larger number of those whom we meet day by day were not present to enjoy and to profit by it.

THE CLINICAL CONGRESS AT NEW YORK

BY WILBUR HARRIS, M.D., TORONTO.

The importance attached to the enteroptotic woman may be judged from the fact that the whole of an evening session of the Congress was given over to the various phases of visceral ptosis and intestinal stasis.

Richard R. Smith, of Grand Rapids, Michigan, read a paper entitled "A Description of the Enteroptotic Woman." His paper was illustrated by slides which clearly showed his conception of the congenital and acquired varieties. He said that after examining some five hundred women with splanchnoptosis and nearly a like number of below-par children, he concludes that the enteroptotic habit of adult life finds its counterpart in the frail child.

The most impressive part of this evening's session was the spontaneous applause that greeted Mr. Lane when he was introduced to read his paper on "Chronic Intestinal Stasis." The cheering that greeted his name was not entirely or in fact principally on account of his personality or professional standing. There is, however, no doubt of his popularity on either of these counts. The Congress seemed to feel that in applauding Lane they were honoring Britain. The British-born present appreciated the compliment.

Lane is looked on in the United States as a trail blazer. His work is considered comparatively safe in his own hands, his teachings dangerous for those of less experience and less skill. His claim that breast cancer and tic douloureux, and all the intervening ills, are caused by intestinal stasis was taken with a grain of salt.

John G. Clarke, of Philadelphia, in his summary of "Results of Gastro-Intestinal Stasis," said that surgery should not be undertaken to cure visceral ptosis except as a last resort. He talks somewhat in an apologetic manner. He believes part of what he says, but gives one the impression that his personal

results do not justify too much optimism. He does not recommend it for the sidelines or the back townships.

Joel E. Goldthwaite, of Boston, read a paper, "Orthopedic Principles in the Treatment of Enteroptosis and Chronic Intestinal Stasis." He views the subject from the orthopedic and embryological standpoint.

Embryologically he thinks the frail child is born too soon. The ascending and descending colon have a free mesentery instead of being sessile on the posterior abdominal wall. The child begins life with a movable colon. This occasions no great discomfort during the first twelve years of life. After this period the real work of life begins. The individual is more continuously in the erect posture. Some of the normal visceral supports are lacking. General drooping results in the enteroptotic habit of adult life.

His treatment of adult cases is largely positional rest, and feeding, e.g., the adult with the distended low stomach that will not empty is laterally inverted over the bedside to empty the organ. He claims that the loss of the normal retroperitoneal and intra-abdominal fat are potent factors in the production of visceral ptosis. The replacing of this fat by appropriate rest, posture and diet are potent factors in its cure.

Robert C. Coffey, Portland, Oregon, illustrated his "Replacing and Retaining Operations in the Treatment of Gastric Intestinal Stasis."

One of his operations for retaining the stomach and transverse colon in position created considerable comment in and amusement for the daily press. He forms a hammock for the stomach by stitching the great omentum to the anterior abdominal wall. He first shortens the normal support of the liver and stomach. It is to be hoped that the considerable attention that has been paid to this difficult subject will evolve a remedy.

The general practitioner has been helpless in the matter. He has not had much to hope for from the specialist.

May the time soon come when we may be able to relieve the cadaverous, hollow-chested woman, with the flabby abdomen, the lustreless eye, the dusky skin and the miserable existence.

ANESTHETICS AT THE CONGRESS

BY GEO. H. CARVETH,
Senior Anesthetist Toronto Western Hospital.

1. The exceeding kindness of all the anesthetists at the different hospitals was marked. Whether questions were asked during the administration of the anesthetic or afterwards answers were courteously given and all information possible was put at our disposal.

2. For the ordinary surgeon in general practice the exhibition of ether by the drop or open method is the best plan to follow. This or the warm ether vapor by the Gava-Heney apparatus can be recommended as suitable in nearly all cases. An injection of morphia some time before the operation is of great benefit in preventing shock, especially in patients of a nervous temperament. The use of essence of orange dropped on the face mask as a preliminary is of great use in disguising the odor of ether.

3. Other anesthetics and methods as nitrous oxide and oxgyen, chloroform followed by ether, spinal anesthesia, intratracheal insufflation, etc., all have their proper use in selected cases, but ether given as above seems to be the best anesthetic for the ordinary general practitioner, to be given to patients at all ages and under all conditions.

4. Anesthesia giving is not a healthy occupation. Very few old men are observed at this work, and a forenoon given over to this part of professional routine is sufficient for the ordinary, strong, healthy young man. Fees could be revised without overpaying the ordinary anesthetist.

5. The ordinary operating room is well lighted, but the air in most of them is too hot, close and moist for health, and the bad effects are seen in patients, attendants, nurses and operators as well as anesthetists. An improvement in this line is needed even in the best operating rooms in Toronto.

6. Trained and experienced anesthetists are required for this special work. Too many cases of artificial respiration were

seen at this clinic. The operator can do his best work when no thought requires to be given to the patient's anesthesia.

7. Toronto compares favorably with New York hospitals in hospital, nursing and general surgical work, and with a little more encouragement to the anesthetists at present working in the hospitals, work in that line can be accomplished not surpassed in any part of the world.

THE LAST DAY OF THE CONGRESS

BY A. H. PERFECT, M.D., WEST TORONTO.

The last day of a strenuous week saw Dr. N. A. Powell and the writer leave the central committee room of the Waldorf-Astoria at eight o'clock a.m., board an up-town surface car and arrive in half an hour at the Hospital for Ruptured and Crippled. The operating room was well filled already, except two of the orchestra chairs. We were lucky, for had we not stood six hours the previous day at the Post-Graduate Hospital. The time spent here was one of the most profitable of the Congress meet. This is the largest rupture clinic in the world. An old friend, Dr. Roland Hill, of St. Louis, Mo., a former house surgeon at the Toronto General Hospital, and who by the way holds the world's record for having done the most operations on children for stenosis of the pylorus, gave us a cordial smile from across the room. Dr. Downs, whom we had seen use splendid technique in doing a gastro-duodenostomy at the New York City Hospital, was already at work on the first radical cure of the day. All the patients were children between the ages of four years and fifteen years. Three operating tables were constantly in use, and the time averaged about fifteen minutes for each case. Dr. Walker, Dr. Downs, and Dr. W. B. Coley. The latter was the dominant figure and personality. Here was a man whose voice was as large as his hands and feet and features. The gloved hand and the gauzed lower mandible surely belonged to a giant, but in the changed secretion of his hypophysis cerebri one looked in vain for a compensatory lump on either side of the trachea. Coley has acromegaly but acromegaly has not Coley. From the time that he entered the operating room until he left it there was a reverential quietude preserved that might well be copied with great benefit by many New York operating theatres. Cases were first shown that had been operated a number of years ago with perfect results. And then Coley began to operate. Those large finger ends had been so adjusted by years of experience that wonder and admiration

at their smooth-going deftness shared the honors with the faultless technique. His method is after Bassini. The skin and superficial fascia are incised parallel to Poupart's ligament, with the pubic spine as a landmark. A grooved director is introduced at the outer ring beneath the aponeurosis of the external oblique, which is slit up as far as the internal ring, the cut edges being lifted up until this structure is separated from the underlying tissue, the shelving portion of the external oblique being well exposed on the outer side, and the right rectus abdominis on the inner side. Then the important ileo-inguinal nerve is freed and held aside by the assistant with every possible care, and in every case operated special tenderness with this nerve was enjoined. The presenting sac was picked up, isolated, and freed in its circumference, so that after being opened, transfixed and tied, it would drop back easily into the abdominal cavity. The cord is transplanted always. Interrupted kangaroo tendons unite a goodly bite of the internal oblique muscle to Poupart's ligament, and these tendinous fibres are always picked up carefully with a dissecting forceps, great regard being had for the femoral vessels. The cord lies in its new unpinched bed, and is covered by a running suture closing the aponeurosis of the external oblique muscle. Coley closes the skin with interrupted catgut, Walker with a subcuticular stitch and Downs with a continuous suture. In the female Coley takes easily twice the length of time as in the male. Every fibre of the spread-out round ligament is carefully and gently dissected away from the adherent sac and dropped back where it originally belonged.

In direct hernia with the sac on the inner side of the cord, one case had the bladder wall presenting, and showed how easily that viscus could be opened without expert handling. An undescended testicle was placed in its nest and that concluded an interesting and profitable four hours session with one of the masters of the craft. Coley is still working with his mixed toxines for sarcomata, and showed some cases that had remained well from two to twenty years.

201 Annette Street.

Society Proceedings

ACADEMY OF MEDICINE, TORONTO

The Section of Ophthalmology and Oto-Laryngology met on Monday, December 2nd, at 8.30 o'clock. The evening was a clinical one, and consisted of the presentation and discussion of cases.

The Section of Pediatrics met on Thursday, December 5th, in the Hospital for Sick Children. The programme consisted of—1. Clinical cases: (1) Sarcoma of the clavicle, F. N. G. Starr; (2) Ataxia in a boy of six years, G. F. Boyer; (3) Use of carbon dioxide, W. W. Wright. 2. The pathology and transmission of acute anterior poliomyelitis, J. A. Amyot.

Section of Medicine, Tuesday, December 10th. This attendance was the largest in the history of the Academy, nearly one hundred and fifty Fellows being present. The meeting was devoted to the subject of gastric and duodenal ulceration, considered from the medical and surgical standpoints. 1. Demonstration of patients. 2. Demonstration of pathological specimens illustrating the various manifestations of gastric and duodenal ulceration, Brefney O'Reilly. 3. Diagnosis, J. T. Fotheringham. 4. Treatment: (*a*) Medical, A. McPhedran; (*b*) Surgical, G. A. Bingham. 5. Discussion was opened by W. J. Wilson and J. M. Cotton.

Section of Surgery, Tuesday, December 17th. 1. The surgical indications for the treatment of joints involved in general infections, and the methods applicable to individual cases, Chas. Fairbank Painter, Professor of Orthopedic Surgery, Boston, Mass. (By invitation.) 2. Tendon fixation; a new operation for the correction of paralytic talipes, W. E. Gallie. 3. Fractured pelvis with ruptured urethra, E. Stanley Ryerson. 4. Some observations on affections in the ileo-colic region, A. Primrose. (Illustrated with lantern slides.) 5. Fracture

of humerus with musculo-spiral palsy, Norman Shenstone. 6. Recent experiences with fractures, Wallace Scott.

The Sections of Pathology and State Medicine did not meet owing to the proximity of the Christmas holidays.

The stated Academy meeting for December took place on Tuesday, December 3rd. The evening was almost entirely devoted to a symposium on "Infections," as follows: 1. Anaphylaxis and infection, J. J. Mackenzie. 2. Experimental syphilis: its bearing on problems of infection and treatment, Duncan Graham. 3. Diseases produced by the filterable viruses, O. R. Mabee. 4. Nitrogen waste and infection, J. B. Leathes.

The stated meeting for January takes place on Tuesday, January 7th, at 8.30 p.m.

THE MUSEUM AT THE SEVENTEENTH INTERNATIONAL MEDICAL CONGRESS, 1913

A COMMITTEE, with Prof. A. Keith, of the Royal College of Surgeons, as chairman, has been formed for the purpose of organizing a museum in connection with the Seventeenth International Congress of Medicine, London, 1913. The arrangements have been entrusted entirely to this committee, and it has been invested with the power of acceptance or refusal of any offered exhibit.

It has been recognized that the collection of material illustrative of recent advances in medical science in one centre possesses obvious advantages over the plan of leaving each section to collect and house the specimens and other material required by the readers of papers for their communications separately. A central museum offers to a large number of members of the Congress an opportunity of studying these advances from the available material, and this study is enhanced by the co-ordination of the various departments.

The committee has drawn up regulations which shall govern the museum, and is following a plan of procedure. The museum will consist of exhibits illustrating the subjects which will be discussed in the various sections and such other

material as the committee may deem of interest or importance. The specimens will embrace the scientific side of medicine, to the exclusion of a commercial element. Excellent accommodation has been secured for the purpose at the Imperial College of Science, South Kensington, and the museum will be arranged in this place as far as is possible in correspondence with the sections of the Congress. The co-operation of the officers of each section has been obtained, in order that the collections may be worthy of the occasion. It has further been decided that inasmuch as the meeting is to take place in London, and as the visitors will doubtless desire to inspect the metropolitan hospitals and other great institutions, material will not be collected from the museums of the metropolis. The committee is, therefore, seeking exhibits from provincial and foreign institutions and from private collections.

Medical practitioners and scientists who are willing to place at the disposal of the committee material illustrative of recent advances in any branch of medical science are requested to communicate with the Hon. Secretary of the Museum Committee (H. W. Armit, Ravenhurst, Talbot Road, Wembley).

The committee is prepared to defray the expense of transit of the exhibits and to insure them against damage and loss, and will take every precaution to return them in good condition to their respective owners.

Exhibitors will be invited to hold demonstrations in the museum on their own specimens.

It may further be pointed out that permission has been obtained from the Council of the Congress to keep the museum open for a few days after the Congress has ended, if it be found desirable to do so.

PRELIMINARY LIST OF SUBJECTS TO BE INCLUDED IN THE MUSEUM OF THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

1. *Anatomy*—Dissections. Macroscopical and microscopical specimens.

2. *Physiology*—New forms of apparatus (to be shown by physiologists only). Records of recent observations. Anatomi-

cal specimens, with especial reference to reciprocal innervation.

3. *General Pathology*—Muscular system of the heart. Grafting of normal tissues. The pathology of shock.

3a. *Chemical Pathology*—Pathological conditions due to the effect of diet. Clinical application of pathological chemistry. Chemical pathology of the alimentary tract.

4. *Bacteriology* — Cancer. Filter passers. Leprosy. Anaphylaxis.

5. *Pharmacology*—Non-bacterial toxins and antitoxins. The results of thermal treatment.

6. *Medicine*—Chronic arthritis. Heart failure. Diabetes. Hemolysis.

7. *Surgery*—Malignant disease of the large intestine. Tumors of the brain. Intrathoracic surgery. Arterial surgery.

7a. *Orthopedics*—Treatment of spastic paralysis. Treatment of scoliosis. Treatment of ankylosis. Treatment of tuberculous disease of joints in childhood.

8. *Obstetrics and Gynecology*—Cancer of the uterus. Hemorrhage from the placental site.

9. *Ophthalmology*—Chronic Uveitis. Glaucoma operations.

10. *Diseases of Children*—Coli infections of the urinary tract. Effect of the ductless glands on development. Surgical treatment of tuberculosis in childhood. Poliomyelitis and polioencephalitis.

11. *Neuro-Pathology*—Motor aphasia, anarthria and apraxia. Tumors of the brain. The myopathies. Parasyphilis.

12. *Psychiatry*—The psychoses of infections and autoinoculations.

13. *Dermatology and Spyhilography*—Exhibits of this section will not be included in the general museum.

14. *Urology*—Early renal and vesical tuberculosis. Malignant disease of the prostate.

15. *Rhinology and Laryngology*—Neoplasms of the nose, accessory sinuses and naso-pharynx. Rarer forms of laryngeal tumors. Disease of the trachea and bronchi. Bronchoesophagoscopy.

16. *Otology*—Exhibits of this section will not be included in the general museum.

17. *Stomatology*—Periodontal diseases.

18. *Hygiene and Preventive Medicine*—The mortality of infants during the first four weeks of life. Visual defects in school children. Diseases of the lung due to dust.

19. *Forensic Medicine*—The forensic aspect of syphilis. The psychology of crime.

20. *Naval and Military Medicine*—Transport of the wounded in hill warfare. Hospital ships. Water supplies in the field. Anti-typhoid inoculations. Sanitary organization in the Tropics. Caisson disease.

21. *Tropical Medicine*—Leishmaniasis. Relapsing fever. Beri-beri. Plague. Tropical diseases of the skin. Filariasis. Worms.

22. *Radiology*—Technical advances in radiography. Radiographs illustrating diseases of various organs, etc.

Special Department—The technique of the museum.

Museum Committee.

Regulations.

1. Intending exhibitors must give full information in regard to the exhibits suggested for inclusion in the museum on forms supplied. Exhibitors are requested to send in the forms by March 1st, 1913; those received after May 1st will not be considered, save under special circumstances.

2. All exhibits must be received, properly packed, at the Imperial College of Science and Technology, South Kensington, London, S.W., on or after July 25th and before August 2nd, in order that the museum may be arranged by August 4th.

3. The committee has the absolute right of acceptance or refusal of the exhibits.

4. The committee reserves itself the right of arranging the exhibits.

5. The committee shall be responsible for the proper exhibition of the several exhibits, and for their secure packing and dispatching on return. All exhibits will be insured and all claims for compensation for damage or loss must be made within three months of the closure of the museum.

6. No exhibit of a commercial nature shall be included in the museum.

7. Any exhibitor making a communication to a section may arrange with the committee for his specimens to be available at the sectional meetings.

8. Exhibitors may demonstrate their specimens in the museum.

9. No specimen may be removed from the museum without the consent of the committee.

News of the Month

SIMCOE HALL

Simcoe Hall, Barrie, Ontario, has now been opened for the last six months, and, as expected, is doing a great work for those suffering from organic or functional nervous diseases. At its head is Dr. Barber, who has had an extensive experience in the treatment of these cases, and associated with him is a consulting staff of the leading neurologists of Canada, to whom references may be made. This hospital is conducted on strict ethical lines and has the confidence of the medical profession. No similar hospital can compare with it in location, appointment or equipment. The members of the profession should visit Simcoe Hall.

TWO YEARS' INTERNESHIP—GOOD SAMARITAN HOSPITAL, GUANAJUATO, MEXICO

This is a missionary hospital which was started by the Methodist Episcopal Church. Another Christian doctor is needed for the staff.

Guanajuato is a city of 60,000, the capital of the state of the same name. It is located 160 miles northwest of Mexico City. It stands at an altitude of 6,500 feet, in a rich silver-mining region. The Mexican Central Railroad passes through the city.

One year's report of the hospital staff shows 339 visits to homes, 4,579 consultations, 24,523 treatments, 52 major and 279 minor surgical operations, medicines furnished 17,587 patients. Fifteen different nationalities were included among those who were treated.

For this interneship a man is required who has had a thorough medical education and who is prepared to make his profes-

sional knowledge and skill directly subservient to the furtherance of the gospel.

Communications may be addressed to the director of the hospital, Dr. Levi B. Salmans, Good Samaritan Hospital, Guanajuato, Mexico.

The undersigned will be glad to communicate with any medical men who are interested in the need for physicians in foreign countries.

Mr. Wilbert B. Smith, 125 East 27th St., New York City.

PERSONAL

Dr. Reginald S. Pentecost, late Senior Resident Surgeon, New York Eye and Ear Infirmary, New York City, Post-graduate Diploma University of Vienna, has opened offices at 90 College Street, opposite the new General Hospital, for the practice of diseases of the ear, nose and throat.

Electricity in Gynecology—The Practical Uses of Electricity in Diseases of Women. By May Cushman Rice, M.D. Illustrated. Second edition. 1912. L. I. Laing & Co., publishers, 322 W. Washington Street, Chicago, Ill.

Very little literature devoted to the use of electricity in gynecology has so far appeared. Dr. May Cushman Rice's second edition should receive a still better reception than the first edition did, as it has been re-written to a large extent, is concise and eminently practical.

THE USE OF GRAPE JUICE IN THE SICK ROOM*

There are perhaps few physicians who have not frequently been at a loss as to the best kind of diet to be adopted in cases of typhoid fever, gastric inflammation and similar diseases. It is frequently very puzzling to know just what will agree with such a patient best, especially in gastritis and other conditions where vomiting is a prominent symptom. There are a large number of people who cannot digest milk in any form. In several parts of Germany and Austria, of recent years, " Grape Cure " establishments have been opened for the treatment of just such cases, and, judging from statistics, this form of treatment has been most successful. Grape juice, when properly made, will be found to be an exceedingly effective form of diet in many cases. It is mildly stimulating in character, nourishing and palatable. When administered iced it will be found most refreshing, and it is found that many patients will improve when fed upon no other form of diet.

A grape juice that has recently been placed upon the market, and which will be found to be absolutely pure and in no way fortified with alcohol, is that bottled at Winona, Ontario, by E. D. Smith. The manufacturer is anxious to bring his grape juice under the immediate notice of the medical profession generally throughout this country, and physicians are respectfully requested to specify this particular brand when ordering for patients. It can be procured at almost any drug store or direct from the manufacturer.

* Publisher's Department.

LISTERINE

Listerine is an efficient, non-toxic antiseptic of accurately determined and uniform antiseptic power, prepared in a form convenient for immediate use.

Composed of volatile and non-volatile substances, Listerine is a balsamic antiseptic, refreshing in its application, lasting in its effect.

It is a saturated solution of boric acid, reinforced by the antiseptic properties of ozoniferous oils.

After the volatile constituents have evaporated, a film of boric acid remains evenly distributed upon the surfaces to which Listerine has been applied.

There is no possibility of poisonous effect through the absorption of Listerine.

Listerine is unirritating, even when applied to the most delicate tissues ; in its full strength it does not coagulate serous albumen.

For those purposes wherein a poisonous or corrosive disinfectant can not be safely employed, Listerine is the most acceptable antiseptic for a physician's prescription.

Listerine is particularly useful in the treatment of abnormal conditions of the mucosa, and admirably suited for a wash, gargle or douche in catarrhal conditions of the nose and throat.

In proper dilution Listerine may be freely and continuously used without prejudicial effect, either by injection or spray, in all the natural cavities of the body.

Administered internally, Listerine is promptly effective in arresting the excessive fermentation of the contents of the stomach.

In the treatment of summer complaints of infants and children, Listerine is extensively prescribed in doses of 10 drops to a teaspoonful.

In febrile conditions, nothing is comparable to Listerine as a mouth wash ; two or three drachms to four ounces of water.

"The Inhibitory Action of Listerine," 128 pages descriptive of the antiseptic, may be had upon application to the manufacturers,

LAMBERT PHARMACAL COMPANY,

Church and Gerrard Streets Toronto, Ontario

LONDON MEDICAL EXHIBITION, ROYAL HORTICULTURAL HALL, WESTMINSTER

The exhibit of Messrs. Burroughs Wellcome & Co. was a most interesting and in many respects fascinating one, comprising as it did tasteful displays both of the well-known staple products of the firm and of the newer preparations—synthetic, biological, etc.—which are the outcome of the elaborate and painstaking scientific researches constantly being carried on in their laboratories.

An excellent example of this latter class is "Ergamine," a newly-discovered active principle of ergot, now presented to the medical profession as "Tabloid" Hypodermic "Ergamine," in convenient form for clinical trial. This substance is an intense stimulant of plain muscle and particularly of the uterus, which responds to mere traces of it. Its use is suggested in such conditions as post partum hemorrhage where prompt uterine contraction is required. "Ergamine" is also presented in combination with the other active principles of ergot—all of which were isolated at the Wellcome Research Laboratories—in "Ernutin," shown in forms suitable for oral and hypodermic use. This preparation has been aptly described as "ergot idealized." It has all the good qualities of the older ergot preparations and none of the bad ones.

A recent and important addition to the list of "Tabloid" preparations is "Tabloid" Bismuth Subsantonate Compound, which contains the well-known vermifuge santonin in the form of a stable and non-irritant bismuth salt associated with a dose of the laxative phenolphthalein. The product is made with a chocolate basis, which makes it attractive to children, and it is a capital example of scientific modern pharmacy.

Other scientific productions of the firm exhibited included "Epinine," the remarkable synthetic analogue of the supra-renal active principle first prepared at the Wellcome Chemical Works, and "Vaporole" Pituitary (Infundibular) Extract, which has of late come to be so widely and successfully used in combating shock and collapse, as a uterine and intestinal stimulant and for various other purposes. It is put up in the useful "Vaporole" hermetically-sealed containers which keep their contents sterile and undeteriorated until required for use. "Epinine" is also obtainable as a "Vaporole" product as well as in stoppered bottles. A combination of "Epinine" with cocaine, forming an excellent local anesthetic, was exhibited under the name "Epicaine."

"Tabloid" Ophthalmic "Epinine," for use in eye work, and "Tabloid" "Epinine" Compound, for the local application to the throat of "Epinine" in combination with expectorants, sedatives and antiseptics, were also shown.

The various sera, vaccines and tuberculins prepared at the Wellcome Physiological Research Laboratories and issued by Messrs. Burroughs Wellcome & Co., formed as usual an important feature of the exhibit. Concentrated Diphtheria Antitoxin "Wellcome" is a great advance on the older anti-diphtheria sera, since it reduces the bulk of the dose by about 60 per cent. The latest "Wellcome" vaccine is Streptococcus Vaccine, Dental, prepared from several strains of streptococci isolated from cases of *pyorrhea alveolaris* and intended for use in that very common condition. Of special

Prompt Assimilation

of nutritive material is of the greatest importance to convalescing patients, in all acute diseases or surgical operations.

At this stage the blood is impoverished, the tissues depleted and the digestive functions at low ebb. Prompt assimilation of food must be secured—but not at the expense of further reducing the digestive and assimilative powers of the patient.

It is just here that

Grape-Nuts

has come to be relied on with confidence by the doctor and comforting assurance by the patient.

Grape-Nuts, made of wheat and barley, contains **all** the nutritive elements of these cereals, including the essential salts, "vital phosphates," etc., which, physiologists know well, are in some important way n cessary to perfect cell elaboration.

Grape-Nuts and good cream are a wholesome, appetizing combination of protein, carbohydrates, fat and salts, in promptly assimilable form.

The "Clinical Record," for Physicians' bedside use, together with samples of **Grape Nuts, Instant Postum** and **Post Toasties** for personal and clin cal examination, will be sent on request to any physician who has not yet received them.

Canadian Postum Cereal Company, Limited, Windsor, Ont.

interest in these days of renewed activity in tuberculin-therapy is New Tuberculin (W), "Wellcome," prepared by a process designed to render it at once more active therapeutically and more easily absorbed than Koch's T.R.

Very elegant and attractive are the "Vaporole" products for inhalation, such as "Vaporole" Aromatic Ammonia, "Vaporole" Amyl Nitrite and "Vaporole" Chloroform and Ethyl Iodide Compound. The last-named is a useful combination in all forms of laryngeal spasm. These products in their dainty absorbent coverings only require to be crushed between the fingers to be ready for inhalation.

A full range of "Tabloid" Hypodermic Cases, Medicine Chests, Bacteriological and Analysis Cases, and "Tabloid" First-Aid was exhibited and demonstrated most strikingly the success with which the art of compression, without reduction of efficiency, is practised by this firm. Equally worthy of notice in this respect are "Tabloid" Pleated Compressed Bandages and Dressings, a new packing for which was shown which reduces the risk of contamination to a minimum. The bandage unfolds and glides through a slot. It can be used in the same way as a roller bandage with the advantage that every inch is clean and uncontaminated. The latest dressing, "Tabloid" Bismuth Gauze, offers a powerfully antiseptic, non-toxic and inodorous product, well qualified to replace the useful but generally obnoxious iodoform gauze.

KANT-SKIDS

At this season of the year, physicians will be interested in a device for their motors guaranteed not to allow skidding, no matter what the condition of the road.

The Kant-Skids are a temporary non-skid to be used over the tires only when the roads are unusually slippery. They are made in two styles, the Side-Chain Kant-Skids and the Single Kant-Skids.

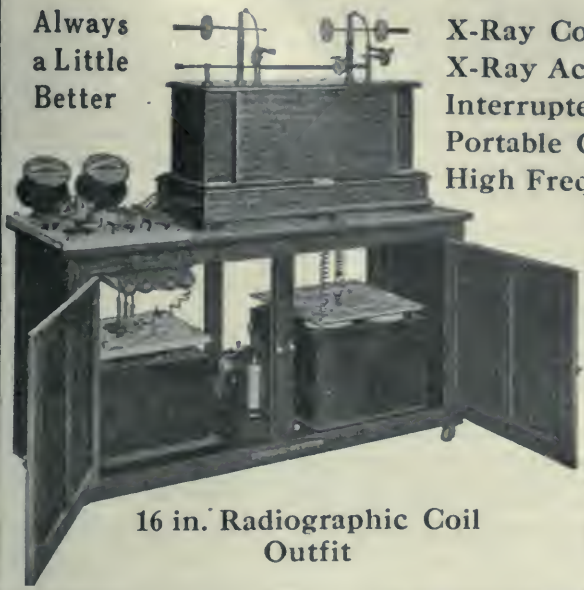
The cross members of the Kant-Skids are made of thick steel stampings which present a perfectly smooth, rounded surface to the tire, and the curved edges of metal to the road. In this way there is nothing to wear or injure the rubber, but the best possible grip is obtained on the road surface.

On account of the centre pieces of the cross members being straight, the ends of them project far out from the tire and take a deep hold in mud or snow, but on account of the pieces being comparatively thin at the middle portion there is no bumping when running on hard roads or pavements.

The Side-Chain Kant-Skids consist of two side chains forming a ring on each side of the wheel having the cross members attached at short intervals between them. The ends of the side chains are joined together by a lever hook which enables one to draw up the side chains tight when being connected. On one end of each side chain is fastened a small coil spring which is snapped across the wheel, as shown in the cut, to hold the extra links of chain from dangling and which automatically takes up any slack that may develop and thus keeps the Kant-Skids tight on the tires. Kant-Skids are made by The Leather Tire Goods Co., Niagara Falls, Ont.

Scheidel-Western Apparatus

Always a Little Better



16 in. Radiographic Coil Outfit

X-Ray Coils
X-Ray Accessories
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Cauteries
Diagnostic Controllers
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Manufacturers of all
Electro-Therapeutic Apparatus

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Guaranteed 5 Years

Write for Complete Catalogue Mentioning Appliances you are Interested in

For any Alternating Current

Columbia Cautery Outfit No. 1

Scheidel-Western X-Ray Coil Co.

Largest Manufacturers of Electro-Therapeutic Apparatus in the World

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Toronto Representatives

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Winnipeg Representatives

NEW TABLE WATER PUT ON MARKET

A SPECIAL despatch from Caledonia Springs, Ontario, announces the discovery of a new spring of remarkable purity. Waters from this spring have been analyzed by T. A. Starkey, M.D., D.P.H., (London), Professor of Hygiene at McGill University, who says "This water is an exceedingly pure, soft sample —pure both chemically and bacteriologically." In addition to Dr. Starkey's bacteriological examination, a chemical analysis was also made by R. F. Ruttan, M.D., F.R.S.C., Professor of Chemistry at McGill University. In his report he says: "The water leaves nothing to be desired as a clean, pure spring water, so far as chemical analysis can discover."

Unlike the famous Magi, which is a saline water, the water from this new spring is slightly alkaline in character and contains a small percentage of minerals.

When one considers the extent to which most water supplies are to-day contaminated, the importance of this new discovery is at once apparent. Moreover, Adanac—for that is the name which has been given to the new water—is characterized as a perfect blender. Added to wines and liquors, milk or fruit juices, it imparts the snappy tone and tartness of flavor that appeals to the exacting taste—at the same time not changing the character of the most delicate vintage. On the contrary, it accentuates and enhances the individuality of each.

While Canadians are fortunate to possess such a water as this, they are doubly fortunate that this spring has fallen into the hands of The Caledonia Springs Co., Ltd.; for this concern is in a position to bottle it by the most advanced and modern methods known to science, and the user may be satisfied that when Adanac reaches his own home it is as pure as if he drank it from the mouth of the spring. The same extreme care is exercised in every detail of the bottling of Adanac as is used in the bottling of Magi; the same expert bottlers work under the same rigid supervision, so that the cleanliness and purity of the one is equalled only by the cleanliness and purity of the other.

DIGIPOTEN

SPEAKING of this product, Dr. Alben Young, a prominent physician of Chicago, says:

"Having now used Digipoten for several months, I am prepared to say it is a wonder—the very best digitalis preparation I have ever used. It gives me marked, prompt and positive results. In my experience, a good dose night and morning, giving each plenty of time to get in its work, produce just the results I want—better, because more controllable, than when given with greater frequency.

"I have a number of heart patients who feel, as they express it, that they couldn't live if they didn't have the little green tablets."

Samples and booklet sent on request by The Abbott Alkaloidal Company, Chicago.

The Mulford Bacterins

The Mulford Bacterins (Bacterial Vaccines) for **therapeutic use** are supplied in packages containing **4** aseptic, glass syringes, ready for immediate use, labeled A, B, C and D, respectively.

The number of killed bacteria contained in syringe B is double the contents of syringe A; syringe C is double the contents of syringe B; syringe D is double the contents of syringe C.

Each syringe is graduated into fifths, so that any divided dose of the contained bacterin may be instantly measured.

THE MULFORD BACTERIN SYRINGE

LIST OF BACTERINS
(Bacterial Vaccines)

Acne Bacterin (Acne Vaccine) in 4 syringes. A contains 25, B 50, C 100, D 200 million killed bacteria.
Coli Bacterin (B. Coli Vaccine) in 4 syringes. A contains 50, B 100, C 200, D 400 million killed bacteria.
Influenza Bacterin (Influenza Vaccine Mixed) See price-list for bacterial contents.
Neisser Bacterin (Gonococcic Vaccine) in 4 syringes. A contains 50, B 100, C 200, D 400 million killed bacteria.
Neisser Bacterin Mixed (Gonococcic Vaccine Mixed) See price-list for bacterial contents.
Pneumo-Bacterin (Pneumococcic Vaccine) in 4 syringes. A contains 50, B 100, C 200, D 400 million killed bacteria.
Pneumo-Bacterin Mixed (Pneumococcic Vaccine Mixed) See price-list for bacterial contents.
Scarlatina Bacterin (Scarlet Fever Vaccine) in 4 syringes. A contains 50, B 100, C 200, D 400 million killed bacteria.
Staphylo-Bacterin (Staphylococcic Vaccine) in 4 syringes. A contains 250, B 500, C 1000, D 2000 million killed bacteria.
Staphylo-Bacterin Mixed (Staphylococcic Vaccine Mixed) See price-list for bacterial contents.
Staphylo-Acne Bacterin (Staphylo-Acne Vaccine) See price-list for bacterial contents.
Staphylo-Albus Bacterin (Staphylo-Albus Vaccine) in 4 syringes. A contains 250, B 500, C 1000, D 2000 million killed bacteria.
Staphylo-Aureus Bacterin (Staphylo-Aureus Vaccine) in 4 syringes. A contains 250, B 500, C 1000, D 2000 million killed bacteria.
Staphylo-Strepto-Bacterin Mixed. See price-list for bacterial contents.
Strepto-Bacterin (Streptococcic Vaccine) in 4 syringes. A contains 50, B 100, C 200, D 400 million killed bacteria.
Typho-Bacterin (Typhoid Vaccine) in 4 syringes. A contains 125, B 250, C 500, D 1000 million killed bacteria.

PRICE.—Therapeutic package, 4 syringes (A, B, C and D) to each pkg. $2.00
Single "D" syringes of any Bacterin 50

Mulford Bacterins (Bacterial Vaccines) for **immunizing** or **prophylactic** use are supplied in packages containing **3** aseptic, glass syringes.

Cholera Bacterin (Cholera Vaccine) in 3 syringes containing 500, 1000, 1000 million killed spirilla.
Meningo-Bacterin (Meningococcus Vaccine) in 3 syringes containing 500, 1000, 1000 million killed bacteria.
Scarlatina Bacterin, immunizing, (Scarlet Fever Vaccine) in 3 syringes containing 250, 500, 1000 million killed streptococci.
Typho-Bacterin, immunizing, (Typhoid Vaccine) in 3 syringes containing 500, 1000, 1000 million killed bacteria.
Typho-Bacterin Mixed (Typhoid Vaccine Mixed). See price-list for bacterial contents.

PRICE.—For Immunizing and Prophylactic Use (3 syringes to pkg.) $1.50

H. K. Mulford Co., Chemists, Philadelphia

New York Chicago St. Louis Atlanta New Orleans Kansas City Minneapolis San Francisco Seattle Toronto

WATERBURY'S METABOLIZED COD LIVER OIL COMPOUND

To the Medical Profession:

Are you aware that Waterbury's Metabolized Cod Liver Oil Compound with Creosote and Guaiacol, a preparation made from pure Norwegian Cod Liver Oil, and by a process heretofore never used in the treatment of oil, has, through its dependable physiological results, established itself with the busy, thoughtful physicians throughout the entire globe?

We most sincerely commend this product to your careful attention. We assure you that we believe Waterbury's preparation from Cod Liver Oil as a rich, red blood maker has never been equalled on the world's market. It is a preparation that is well tolerated by the most delicate stomach, always increases the appetite, and to-day in many of the foreign countries physicians at their own expense have installed in hospitals and in their office practice a system of cards for noting the increased weight where this preparation is used.

Now it is not necessary for you to try this product with many patients suffering from many different ailments where such a preparation is indicated, but a single tryout in any well selected case will convince you of the above stated values. So if it is results you are after, you may depend upon the physiological action of this preparation every time when used in indicated conditions.

Thanking those who have used this preparation and are familiar with its action, trusting we may have the satisfaction of knowing this preparation is doing all the good it is worthy of by its increased use by the physicians heretofore unacquainted with the compound, we beg to remain,

Very respectfully yours,

WATERBURY CHEMICAL COMPANY.

IDEAL FOR A DOCTOR'S MOTOR

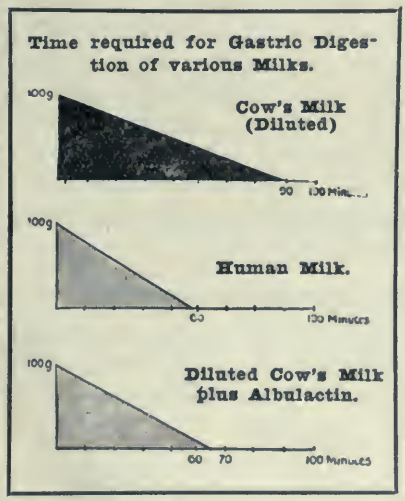
ANY road, any weather, any car is right for Dunlop Traction-Tread, Anti-Skid. Representing in rubber the iron corrugations of the traction wheel, the result is utmost strength, resiliency and response. Some facts which spell exclusive: 1. Greater depth of lateral sides on surface. (Measure the others.) 2. Corrugations and carcass solid—not cemented together. (Examine the others.) 3. Maximum lateral resistance to the road. (Test the others.) 4. Price has no influence on quantity or quality of tread—heaviest and best possible. (Compare with the others.) Dunlop Traction-Tread. Now, note the result: More Rubber—Lasts longer than any other Anti-skid. More Road Resistance—Runs better than any other Anti-skid. More Service—Will be a genuine Anti-skid tire when all other "so-called" Anti-skid are worn down to plain covers. More Satisfaction—Cost no greater than for the uncertain kind—really a good deal less in the final accounting. Don't accept imaginary, state-on-paper-only Anti-skids when a certainty, an Anti-skid of actual virtues, like Dunlop Traction-Tread, is at your bidding. Tire experience and tire brains combined to offer you something real—Dunlop Traction-Tread. It cannot be imitated nor displaced.

Experiments showing the Influence of Albulactin on the Motility of the Stomach.

A NATURAL AID TO INFANTILE DIGESTION

Important clinical interest attaches to the experiments recently made by Prof. A. Bickel and Dr. H. Roeder, of the Royal Pathological Institute in Berlin, regarding the use of Albulactin for the artificial feeding of infants. (*See "Med. Press and Circular," May 4th, 1910.*)

Albulactin is the soluble form of milk-albumin, or the real albumin of milk as distinguished from the casein. This substance is now recognized as being not only the essential nutritive element in human milk, but also the chief cause of its easy digestibility. Human milk contains three times as much of it as cow's milk. By adding the right proportion of milk-albumin, or Albulactin, to diluted cow's milk, a milk is obtained practically identical with the human fluid.



The object of these experiments was to determine the exact length of time required for gastric digestion of an equal quantity (100 grammes) of (1) Diluted Cow's Milk, (2) Human Milk, (3) Diluted Cow's Milk *plus* Albulactin. These were given by means of an œsophageal tube to fasting animals with a permanent duodenal cannula in the side. The solutions were tinted with Berlin Blue to ascertain the exact period which elapsed from the stomach beginning to empty itself until the process was complete.

The experiments may be summarized by stating that gastric digestion was performed in about 90 minutes in the case of diluted cow's milk, in 56 minutes in the case of human milk, and in 62 minutes in the case of diluted cow's milk plus Albulactin, as shown in the accompanying diagram.

These facts encouraged Dr. Roeder to use Albulactin in the feeding of infants suffering from various diseased conditions, and the results which he obtained were in every case highly satisfactory. The author's investigations may be summarized as follows:—

(1) Diluted cow's milk tends to inhibit gastric motility because its thick curd offers only a small surface to the action of the gastric juice, and consequently requires a longer time for digestion than human milk.

(2) The curds formed by cow's milk plus Albulactin are as fine, soft and minute as those yielded by the human fluid. They are propelled from the stomach with a minimum expenditure of energy and in practically the same time as the curds of human milk.

(3) The addition of Albulactin to diluted cow's milk stimulates the motor activity of the stomach and therefore actually aids the digestive process.

Literature and Samples supplied free to medical men on application to Messrs. A. Wulfing & Co., 12 Chenies Street, London, W.C., manufacturers of Sanatogen, Formamint and Albulactin.

ALBULACTIN

TREATMENT OF EPILEPSY BY MEANS OF GELINEAU'S DRAGÉES

For thirty years, without any ostentatious announcements, *Gélineau's Dragées* have remained the stand-by of the French and foreign medical faculties.

These thirty years of consistently convincing experiences show that, by *Gélineau's Dragées,* it is possible to obtain an intense bromidism with great rapidity and at the same time without danger.

Gélineau's Dragées are by no means a secret remedy: they are composed of three active ingredients, whose harmonious action is well established, viz.: Bromide of Potassium, Arseniate of Antimony and Picrotoxin.

Gélineau's Dragées prescribed in conjunction with a dechloridizing diet rigorously supervised and directed by a medical man, will give results in the treatment of epilepsy, which are unobtainable by any other preparation.

Gélineau's Dragées will, besides, yield a speedy success to the practitioner in cases of pseudo-angina, that affection so well described by Hartemberg.

Whilst neurasthenia, with its set of symptoms, established in such a masterly manner by Charcot, essentially represents the drain by over-use or intoxication of the efferent system—brain and medulla—pseudo-angina essentially represents the irritability by over-excitement of the efferent system. The one is a malady of fatigue, the other one of pain: they are two totally distinct expressions of two distinct pathological conditions.

These conditions will be quickly and successfully combated by the use of *Gélineau's Dragées* in the dose of two to four a day in two doses during meals.

The nervous symptoms of *menstruation,* symptoms so painful for the patient and her friends, and the nervous troubles of the *menopause* will find in *Gélineau's Dragées,* prescribed in small doses, two to four a day—(always during meals), a truly marvellous and efficacious remedy.

ELIMINATION OF PAIN FOLLOWING INJECTION OF SALVARSAN

Injections of Salvarsan, while remarkably beneficial in effect, have nevertheless been a source of considerable agitation on account of the painful and other untoward symptoms which follow their use. The experimental mind, so prevalent among the medical profession, sought to connect these symptoms with the arsenical content in Salvarsan, which undoubtedly must produce a sort of arsenical poisoning in the system. Scientific experiments along these lines, made by dermatologists, proved these contentions, and the treatment, therefore, by active catharsis by means of Hunyadi Janos Water, has been found to eliminate the pain and other constitutional symptoms following intramuscular and intravenous injections of Salvarsan.

The technic, case reports and full results of these experiments, have been published in an artistic booklet which we recommend, for perusal, to every physician.

The firm of Andreas Saxlehner, New York, will, we are sure, gladly send one upon request.

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The stringent experiments made at the School of Physiology, Dublin, proved:

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IODEX is absorbed with great rapidity and does not stain or irritate the skin.

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THE CLIFTON SPRINGS SANATORIUM

It will interest readers to hear a few words regarding the continued development of this, one of the oldest of American Sanatoria. The original idea of a sanatorium as a place of rest, good hygiene and recuperation for the worn-out and for convalescents is as true as ever. Clifton supplies such aids to health through its comfortable housing, dieting, regulated life, baths and retirement, combined with reasonable recreation. An Industrial Department, founded on the "Work Cure," plan of Marblehead, is also being put into operation, for the skilled instruction in handicrafts, and for the bringing back into remunerative industrial life of persons broken in health and driven out of the professions. But more important than all, the management and working staff of Clifton are being continually reinforced by highly-paid trained experts. We have learned of recent years that the greatest number of rheumatic and "nervous" breakdowns are due to serious underlying physical disorders: to damaged hearts and kidneys; to hyperthyroidism, to chronic appendicitis, to visceral ptosis, to duodenal ulcer, to disease of the ears, nose, eyes and throat, and to dozens of other derangements. These ailments are often obscure, and may baffle the busy general practitioner, with his limited time for the study of each patient. The Clifton Springs Sanatorium has become a clearing house for such cases—a broad-gauge consulting room, where not only may patients be studied by experts, and under the most favorable conditions of environment, time and equipment, but where proper and elaborate remedies, medical and surgical, may be applied, if the patients and their home physicians so desire. Indeed, this institution may be regarded as an interesting and successful development in high-grade co-operative practice. Clifton has always been a pioneer, and its further useful progress will repay the observation of the medical profession and the public.

NEW FORD FACTORY

One thousand additional men will be given work at the big factory of the Ford Motor Company in Walkerville, Ont., when buildings now in course of construction are completed by March 1, 1913. This will exactly double the force now employed.

Buildings which will double the size of the factory are going up, and a power plant producing 1,200 horsepower is nearly installed.

More than doubling its output of 6,500 cars this last year, the company will build 15,000 cars the coming season. In 1905, its first year, the company manufactured but 114 cars.

Several large factories in Walkerville sell their entire outputs to the Ford Company.

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MEAT JUICE, and other Invalid Delicacies.

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"Ready in a minute."

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SOUP SQUARES
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MIXED VEGETABLES

At your Grocers

MODERN SANITATION IN THE RURAL DISTRICTS AND THE SUBURBS

The attention of the readers of this journal is called to the "Parkyte Products," manufactured by Parker-Whyte, Limited, of Winnipeg, Manitoba, and Toronto, Ontario, whose advertisement appears on page iv. of this issue. This enterprising firm have absolutely solved the sanitary problem in the rural districts and the suburbs. Their leader is the "Parkyte Sanitary Chemical Closet," which is the only sanitary chemical closet on the market to-day that has received the endorsement of physicians and health inspectors throughout Canada. These closets are neatly fitted, easily installed, low priced, and will last a lifetime. No water, no sewage system, no burning process is necessary. The germs are killed and closet disinfected by Parkyte Chemicals; consequently they require minimum attention and care.

Throughout Canada, architects are specifying their use in both public institutions and the homes where water systems are not installed. In rural districts, Councils are actually compelling their installation by by-law, as a safeguard against epidemics.

Messrs. Parker and Whyte started a few years ago, out of which partnership evolved the Company, Parker-Whyte, Limited, the business of which has more than quadrupled itself the past year. This not only speaks well for "Parkyte Products," but also for the modern ideas on sanitation held in rural districts, and tends to show that the towns are keeping up the pace of our large cities in the war against disease.

Parkyte Products include Sanitary Liquid Soap, Sanitary Towels, Disinfectants and Sanitary Lavatories. In fact, Parker-Whyte, Limited, can truthfully say, "If it pertains to Sanitation, we have it."

HEMATOPORPHYRINURIA

A. W. Rogers, Oconomowoc, Wis. (*Journal A. M. A.*, May 18), after noticing the conditions of the occurrence of hematoporphyrinuria, which may be described as hematin without the iron occurring in excessive quantities in the urine, reports a case due to excessive dosing with trional and sulphonal in a man aged 39, suffering from neurasthenia and insomnia. The symptoms were profound exhaustion of body and mind, obstinate constipation, tympanites, nausea, occasional vomiting, and much abdominal pain, localized by him around the navel. The urine was scanty and presented the appearance of free blood, but failed to react to blood tests. These symptoms grew worse, and he died from exhaustion about twenty-five days after the symptoms were noticed by the physician. So far as the doctor could judge, he had been taking about 12 grains of sulphonal for four or five weeks, with an occasional dose of 15 grains of trional. But comparatively few cases of this poisoning have been reported, and the treatment is purely empirical; large doses of sodium bicarbonate and stimulation of intestinal elimination. Rogers comments on the case as affording an argument against laxity in prescribing and failure to caution the patient against the dangers of these coal-tar drugs and against having prescriptions refilled.

"Expels without discomfort to the patient the poisonous toxins that form in the alimentary canal and is of particular value in the treatment of febrile conditions."

Wyeth's

GRANULAR **Salinates** EFFERVESCENT

SUPPLIED IN SEALED BOTTLES
CONTAINING 1-4 LB. AND 1 LB.

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LAXOL

Laxol is the name given to pure cold-drawn castor-oil, which has been specially treated, so as to overcome its objectionable odor and flavor, and to render it *not merely palatable, but actually pleasant.*

In bringing Laxol to the attention of physicians, the manufacturers lay particular emphasis on the fact that *no medicinal agent whatever has been added to the oil,* nor is the oil in the form of an emulsion. They add to it only small quantities of oil of peppermint, vanillin, and other flavoring and sweetening agents, by their own special process—nothing more.

They have every reason to believe, from opinions expressed by physicians who have prescribed it, as well as from patients themselves, that Laxol is largely, if not altogether, free from the constipative after-effect of ordinary castor oil. The following opinions are interesting:—

MANHATTAN DISPENSARY AND HOSPITAL, NEW YORK.

I find Laxol to be an effective laxative and cathartic, very pleasant to the taste and *without any of the disagreeable after-effects of castor oil.*

Paul H. Gray, M.D., House Surgeon.

ST. MARY'S HOSPITAL FOR CHILDREN, NEW YORK CITY.

Have used Laxol, and find *children take it without trouble,* and that it is thorough in its action. V. B. Hamlin, M.D.

BELLEVUE HOSPITAL, NEW YORK.

I have *used Laxol personally,* and find it pleasant to take and effective.

Royal T. Watkins, House Physician, 4th Med. Div.

Sample and Literature may be had, on application, from Menley & James, Limited, of Canada, Craig Street West, Montreal, Quebec.

MORPHINISM

The treatment of morphinism is discussed by E. S. Bishop, New York (*Journal A. M. A.,* May 18), who strongly condemns the method of sudden withdrawal of the drug. The treatment he advises is in the main that described by Dr. Lambert. Bishop believes in first training the patient by a preliminary treatment to determine the amount of drug required to maintain metabolism and by his self-created needs. Most users are taking larger amounts than they need; any patient can be cut to his physiologic amount almost immediately if attention is paid to his elimination. A grain every four hours is a good average maximum, and with many the amount is still less. Elimination should go to adequate catharsis and not to the point of excessive purging. Lambert's treatment is a treatment of extreme elimination and rapid but not sudden withdrawal, accompanied by the administration of belladonna to the point of full physiologic effect, estimating the periods of cathartic and drug administration on the basis of the average time required for cathartic action and morphine elimination in the chronic drug user. Bishop

CEETEE

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For absolute comfort, good health and economy, it is necessary that one should wear underclothing made from nothing but the purest and finest wool.

Qualified medical men know and advise pure clean wool as the best material for wear next the skin—whether for winter or summer.

"CEETEE" is guaranteed unshrinkable

is made from only the finest Australian Merino wool that has been cleaned, scoured and combed until not a particle of dirt or foreign matter is left.

"CEETEE" is made especially for those who appreciate quality—it is high-priced but cheap.

Every garment is shaped to fit the form in the process of knitting, all the seams and joins are knitted, not sewn.

Made in all sizes and weights for Ladies, Gentlemen and Children.

We guarantee every "CEETEE" garment to be absolutely unshrinkable. Always ask for "CEETEE."

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MANUFACTURERS. GALT. ONTARIO.

A remedy to be therapeutically efficient must produce dependable results.

REMEMBER

Antiphlogistine

TRADE MARK

MEANS

THERAPEUTIC EFFICIENCY

INFLAMMATION and ANTIPHLOGISTINE

while not synonymous, the manifestation of one suggests the thought of the other.

IN

BRONCHITIS, LARYNGITIS, QUINSY,
TONSILLITIS, PLEURISY, PNEUMONIA

and other inflammatory throat and chest conditions, Antiphlogistine applied thick and hot affords immediate relief.

NOTE—A name qualifies both product and result. See that your first thought Antiphlogistine, is applied and not an imitation.

THE DENVER CHEMICAL MFG. CO., NEW YORK

describes at length his method and his modifications of the Lambert treatment. He employs continued doses of calomel, one-half grain every two, three or four hours during a whole or part of the treatment, aiding occasionally by castor oil and salines. The treatment should be individual, as individuals vary as to their reaction to the drug, and the doses and intervals should be adapted to the patient's requirement. The stools are not, in his opinion, a reliable index of elimination. Indications for cutting treatment are found in the condition of the patient; after a certain period he is apt to become restless and feels sick at his stomach, but does not want morphine for relief. Bishop believes this indicates the final morphine elimination, and he gives heavy catharsis and cuts treatment. After this the patient generally sleeps, but, if not, may be given a hypnotic. During treatment, overloading the stomach is disastrous, and careful regulation during convalescence is very important, as the patients are apt to be ravenous and indiscreet. The complications of treatment and convalescence are described in some detail. The importance of competent nursing is emphasized. Prognosis as regards permanent cure must always be guarded. In cases starting innocently and ignorantly in otherwise normal individuals, after the addiction is removed and the patients remain in good environments, relapses will probably not occur.

THE VACUUM BOTTLE IN INFANT-FEEDING

In view of the increasing use of the vacuum bottle in infant-feeding to keep the milk warm, and its possibilities good or bad, F. O. Tonney and H. H. Pillinger, Chicago (*Journal A. M. A.*, May 18), have undertaken a series of experiments to determine the bacteriologic content of milk kept in vacuum bottles for various periods. It is evident from the bacteriologic standpoint that this use of the apparatus may or may not be safe, according as the milk is kept at a germicidal or an incubating temperature. In the first series of experiments two samples were used at an initial temperature of 150. The milk was first warmed to that point and placed in a vacuum bottle, which had been previously warmed by immersion in hot water. The bottles were kept at room temperature and opened at intervals for temperature readings and bacterial tests. It was found that the temperature of the surrounding atmosphere influenced materially the rate of heat loss. The count, which was exceedingly low at first, remained so for from six to ten hours, depending on the outside temperature. After that time, and as the temperature fell below 115 F., the bacteria began to multiply rapidly and soon reached enormous numbers. It was concluded that in using this method the bottles should be kept in a warm place if the milk is to be used more than five hours after the warming. Improperly or carelessly used, the vacuum bottle becomes about as potent a factor for harm as can be imagined. The nurse may easily fall into the error of underheating the milk to only incubating temperature. In a second series of experiments made to emphasize the danger, they experimented with milk heated to the ordinary temperature for infant-feeding, and found that raw and pasteurized milk became dangerous in two hours. The directions given by the authors are simple: "Warm the milk, properly modi-

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National Fluid Extracts are medicinal concentrates of guaranteed uniformity.

Every ounce of National Fluid Extracts contains the virtue of an ounce of the crude drug, and all inert matter is eliminated.

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which is enjoying such an enviable reputation among Physicians all over Canada.

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fied, until a thermometer immersed in it registers 150 F., and pour it into a vacuum bottle previously warmed by hot water. Stopper the bottle tightly and put it in a warm place. At feeding time remove the stopper and take the temperature with a thermometer. For this purpose a short thermometer which can be kept inside the bottle is preferable, as the danger of bacterial contamination from this source is thus reduced to a minimum. If the reading is above 115 F., fill the nursing bottle, allow the milk to cool a few minutes and proceed with the feeding. Replace the cork of the vacuum bottle quickly, and set it aside for the next feeding. Do not use the milk, under any circumstances, if the temperature has fallen below 115 F." The authors advise that the milk should be warmed.

"ACADEMY OF MEDICINE" MILK

It is worthy of note that the proprietors of Price's Dairy, Toronto, were the first firm of milk dealers to receive permission to use the seal of The Academy of Medicine, Toronto. This means that the milk of this concern, as supplied to the Toronto public, was found to be fully up to the standard as laid down by the Academy of Medicine Milk Commission. This is certainly an endorsement of no mean order, and should satisfy the medical profession that milk as bottled by Erindale Farm (Price & Sons) is clean, rich, and free from the semblance of adulteration.

WHAT A MEMBER OF THE MEDICAL PROFESSION THINKS OF "PURGEN"

F. W. Tunicliffe, M.D., Professor of Pharmacology, King's College, London, writes:—

"On the ground of my investigations made under varied circumstances as to the efficacy of Purgen, it is evident that our medicinal store in new purgatives has experienced a valuable addition.

"Purgen was administered both to In and Out-patients of the Victoria Hospital for Children. Children at all times took it most willingly, as it is of a particularly pleasant taste, and is no doubt thought to be sweets by them. Never was there any sign of diarrhea or of colic. The experiment was also made to prescribe Infant-Purgen daily or every other day, and that without noticing any loss of effect, nor any sign of irritation of the kidneys.

The patients treated were adults, for the greater part out-patients or in-patients, affected by chest diseases, of the North London Hospital for Diseases of the Chest. In cases where Purgen was administered before going to bed, no opening took place during the night; it took effect only early in the morning. Our patients regularly and daily took Purgen as a purgative. In no case could there be observed any unpleasant contrary effects, nor any falling off in its efficacy. Purgen may also be used for diseases of the kidneys. Purgen is to be advised in instances where we have to avoid the circulatory depressing effects of aperients. In both these cases, especially when albumin is found in the urine, this non-depressive and non-irritating aperient is a desideratum."

Interesting
Therapeutic Advances

A palatable tonic food and reconstructive.

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Rapidly increases weight, producing firm flesh, strong bones and healthy blood.

Unequalled for fortifying weaklings—infants and adults against the effects of cold weather.

Its beneficial effect is immediate in Anæmia, Debility, Rickets and wasting diseases generally.

It is a scientific combination of Fresh Red Bone Marrow, Cream of Malt and the Hypophosphites.

Children Like It

Used in all the leading hospitals and sanatoria throughout the world.

Entirely Supersedes Cod Liver Oil.

Colloid Metals

A New System of Treatment.

'Collosols'

Argentum or Hydrargyrum
(1 in 2000)

Kill pathogenic micro-organisms in a few minutes yet are harmless to human beings.

"No microbe is known that is not killed in laboratory experiments within six minutes."
British Medical Journal, March 2nd, 1912

Used successfully in Gonorrhoea, Gonorrhoeal Conjunctivitis, Syphilis, Tonsillitis, Eczema, Rigg's Disease, etc.
'Lancet,' Feb. 3rd, 1912.

Given hypodermically, intravenously, by the mouth or applied topically.

NOTE.—Collosols are not precipitated by the blood when injected.

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MERVYN E. VAN ZANT, 732 Yonge St. ∴ Toronto, Ont.

MELUBRIN AS A SPECIFIC IN ARTICULAR RHEUMATISM

Loening, of Halle, in the *Munchener Medizinische Wochenschrift,* 1912, Nos. 9, 10 and 11, says: "Melubrin behaves as a specific in acute articular rheumatism, when given in doses of 15 to 30 grains, three or four times daily. It has no action on the heart and there is no acceleration of pulse. The remedy can even be given if endocarditis is present. It also gives positive results in chronic articular rheumatism, myositis and sciatica.

"In typhoid fever it is effectual as an antipyretic. Its action in this respect may be compared with that of a cold bath or Pyramidon. In several severe cases of tuberculosis, the persistent antipyretic action of Melubrin was especially valuable.

"Antipyresis was obtained in scarlatina, angina, erysipelas and miliary tuberculosis, and the remedy was tested in croupous pneumonia with remarkably favorable results. I have given over 45,000 grains of Melubrin and have seen no failures and no paradoxical results."

Melubrin has recently been introduced to the medical profession in this country through the medium of the Farbwerke-Hoechst Company, of New York, and samples will be sent to physicians who signify their desire to receive them.

PNEUMONIA INFECTION

A critical review of the last few years on pneumonia is given by Rufus Cole, New York (*Journal A. M. A.,* August 31). He considers first the infection or onset—how the pneumonic germ, lying harmless in the mouth under ordinary circumstances, can bring about the severe infection of the lung. Decreased resistance of the patient as a cause lacks experimental proof, but there is evidence that a changed condition of the lung may permit the pneumococcus to gain lodgment and to grow in its tissues. There may be at first a non-specific exudate dependent on cold, trauma, etc., and, pneumococci being the organism most commonly present, may set up on this an irritation. There is much evidence against the old view that lobar pneumonia occurs at once throughout a lobe. Sections of the lung of persons dying from the disease show a constant irregular extension of the process. The clinical features of pneumonia are an acute intoxication, and Cole relates experiments of his own to test Friedberger's theory of this in pneumonia, and he does not accept Rosenow's theory of difference of virulence in the pneumococci causing autolysis in one case and not in another. Typical pneumococci in Cole's experience always autolyze whether highly virulent or not. An active poison can be readily and constantly produced from the bodies of pneumococci and it may or may not be responsible for the symptoms in pneumonia. As regards the occurrence of the crisis, the development of immune bodies in the blood-serum cannot be demonstrated. From clinical observation it would seem much more likely, he says, that the crisis represents a kind of neutralization of the intoxication rather than a destruction of the bacteria of the lungs. The crisis is still an obscure phenomenon and it cannot be stated positively whether it represents a destruction of the bacteria, a neutralization of the

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May & Baker's products are purchased regularly by the India Office, the Crown Agents for the Colonies, The War Office, the Admiralty and a large number of foreign Governments as well as by many Hospitals and Institutions both at home and abroad.

The medical profession is invited to ask for May & Baker's chemicals in original packages—obtainable from all the leading wholesale houses in Canada.

MAY AND BAKER, LTD.,
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HORLICK'S
MALTED MILK

Its value is based not alone on chemical qualities, but also on the possession of certain physical attributes, *e.g.*, palatability, solubility, ease of digestion and assimilation; qualities, moreover, which cannot be ignored in the discussion of dietetic values. It is also true that the record of our product as a nutriment, for almost thirty years, bears irrefutable testimony to the genuineness of its physiological worth, and its general excellence as a food product.

Samples free on application to

HORLICK'S MALTED MILK CO.,
25 St. Peter Street, MONTREAL, Canada.

poison, a kind of anaphylactic shock or a combination of all of these. Lastly he speaks of the action of immune serum and specific therapy generally in the lungs. The failure of immune serums in the human subject is laid by Neufeld to the impossibility, or at least the failure, to inject a sufficient amount in proportion to the body weight. Dochez's experiments seem to indicate that there may be another explanation of the failure and that, in addition to the presence of immune bodies in the serum administered, it is necessary for the body of the infected animal itself to play an active part and that in case of very severe infection it is unable to react to a sufficient degree. If we are to make serums efficacious in treatment some method of increasing this completing action of the body must be found, and we may be able to obtain curative results by combining active immunization, that is, vaccination, with the supplying of immune bodies by immune serum administration.

ATONIC INDIGESTION

Seng—a potent and effective preparation of Panax (Ginseng)—has long been used with conspicuous success in all forms of functional diseases of the gastro-intestinal tract. It may be used alone or in any of the many combinations that the experience of the trained therapeutist will suggest. It has frequently been observed, however, that the administration of Seng after everything else has failed, marks the beginning of substantial relief from the train of symptoms that result from atonicity of the gastro-intestinal glands.

In these conditions Seng imparts a desirable tonicity to the alimentary structures, coaxing back the vital functions that have been exhausted and depressed. Fermentation is decreased, pain and distress are relieved, and the patient's whole condition shows marked improvement.

Seng is not a digestant, nor is it a remedy to substitute for a weak, non-acting organ. On the contrary, it is an activator and stimulator of dormant or enfeebled functions, helping and forcing the stomach and intestines to do their own work, rather than doing it for them. In brief, Seng is a true secernent, and used with discrimination and thoroughness it will accomplish results that cannot fail to gratify the painstaking, zealous practitioner.

KINDEL BEDS

We have noticed with interest the ever-increasing demand for Kindel Parlor Davenport Beds in the sick-room. The ease of transforming this Davenport into a full-sized comfortable bed is greatly appreciated by the nurse. At a moment's notice the "bed" has disappeared and in its place a handsome Davenport is seen. There is no carrying of cots and bedding with a "Kindel" in the sick-room, nor is there ever the unsightly bed in sight when a visit is paid the patient.

These beds come in three sizes, the six-foot and four-foot size in Davenport style. The two-foot size is a chair opening into a charming little single cot.

77.

The Canadian Journal of Medicine and Surgery

A Journal published monthly in the interests of Medicine and Surgery

Vol. XXXIII TORONTO, FEBRUARY, 1913 No. 2

Editorials

CANADIANS DISLIKE MODERN BATTLESHIPS

To read some of the editorials in some of the Toronto dailies, one might be induced to suppose that the maintenance of several thousand trained Canadian seamen, as well as the ships of a Royal Canadian Navy, would be merely a matter of appropriating ten millions a year for the maritime defence of Canada. The Hon. Geo. E. Foster exposed the hollowness of such a view, when speaking in the Canadian House of Commons, December 18, 1912, on the proposed grant by Canada of $35,000,000.00 to the British Admiralty. Referring to the Canadian Service Bill of 1910, he said: "Two vessels had been bought, the Rainbow and the Niobe. They were fitted with men, who were not Canadians, although paid with Canadian money. During the two years these ships had been on the coasts of Canada, not a Canadian had qualified to take service in them. There had been two hundred and seventy-one desertions. . . . . Meanwhile, Canada had paid one and a

third millions of good Canadian dollars for capital expenditure, and seven hundred and eighty-eight thousand for upkeep. Under such auspices and circumstances, how long would it be till two units could be manned by properly qualified seamen?"

Mr. Foster's question is unanswerable, if the future units of the Canadian Navy are to be manned and officered by Canadians. Canadians are loyal to the British Empire, and, if there should be need for their services abroad, would prove their loyalty, as they did in South Africa; that they would fight for their own country, if Canada were to be invaded, needs no blazon. Then why do they not man the Rainbow and the Niobe? A sufficient answer is, that a modern battleship is a very disagreeable habitation, in which men are confined very largely to places artificially lighted, and ventilated by air drawn in by fans through ventilating shafts. Leonard Hill, M.B., F.R.C.S., in an address entitled "The influence of muscular exercise and open air on the bodily functions," delivered at the Physiological Section of the British Association, describes, among other things, the rather nauseating conditions of life, to which the officers and crews of British battleships are exposed. He says: "The heat and moisture derived from the bodies of the men, from the engines, from cooking ranges, etc., lead to a high degree of relative moisture, and thus all parts of the ironwork inside are coated with granulated cork, to hold the condensed moisture and prevent dripping. Then the air smells with the manifold smells of oil, cooking, human bodies, etc., and the fresh air, drawn in by fans through metal

conduits, takes up the smell of these and is spoken of by the officers with disparagement as "tinned" or "potted" air. Many of the officers' cabins and offices for clerks, typewriters, etc., in the centre of a battleship, have no portholes and are only lit and ventilated by artificial means. The steel nature of the structure prevents the diffusion of air, which takes place so freely through the brick walls of a house. The men in their sleeping quarters are very closely confined and, as the openings of the air conduits are placed in the roof, between the hammocks, the men next to such openings receive a cold draught and are likely to shut the openings. To sleep in a warm moist "fugg" would not much matter, if the men were actually engaged for many hours of the day on deck and there exposed to the open air and rigors of sea and weather. In the modern war-ship, most of the crew work for many hours under deck, and some of the men may scarcely come on deck for weeks or even months."

A brief consideration of these details explains the marked unpopularity of the naval service with Canadians, an unpopularity which will increase with the introduction of dreadnaughts into the Canadian fleet. There may be other reasons for this unpopularity, viz., the small pay offered to seamen, and the great demand for labor in Canada at the present time. However, we attach more importance to the influence of bad sanitation on battleships. As a navy is necessary for the defence of the commerce of a nation, thorough structural changes should be made in battleships, so as to provide for an uncontrollable

pure air supply to the crews. Owing to the human element added to the air supply of a battleship, all the men should be inspected at short intervals, by medical officers, so that cases of tuberculosis might be weeded out in their incipiency. Then the men of every rating should do gymnastic drill, on deck, for some part of every day, as is the custom in the Norwegian navy. Care should be taken that the health of the officers and crews is not lowered by prolonged confinement in ill-smelling, badly ventilated battleships. J. J. C.

ST. VITUS' DANCE MAY BE DUE TO SYPHILIS

It is customary to look upon chorea as a neurosis, since no constant lesions have been discovered to account for its clinical manifestations. Auscultation of the heart offers a murmur, that may be expressive either of anemia or of a complicating endocarditis. At a meeting of the Medical Society of the Hospitals, Paris, July 4th, 1912, Dr. Milian read a paper giving an account of two cases of chorea, which were of syphilitic origin. Since that date, his statistic of chorea has grown bigger and, at a meeting of the same Society, held November 29th, 1912, it included fifteen cases. The diagnosis of syphilis was certain; a positive Wassermann reaction had been obtained; there had been syphilis in the parents, before the births of the children, in 73.73 per cent. of the cases. A probable diagnosis of syphilis was made in 13.33 per cent. of the patients in whom evident marks of

faulty nutrition were noted. Syphilis was doubtful in 13.33 per cent. of the cases. Rheumatism was very rare—in fact quite exceptional in his cases; in three of them it existed in an imperfectly developed form. Disorders of the mitral valve were found in six of the patients, say about 44.66 per cent.; but these lesions did not sem to be due to rheumatism. In cases of chorea, syphilis is especially of a dystrophic character, and the mothers of the patients have syphilis in a mute form. Dr. Milian was able to give a positive demonstration of the syphilitic nature of chorea, and succeeded in curing three cases of the disease by mercurial treatment. The medicaments usually employed in chorea, such as arsenic, calomel, and antimony, are specifics in syphilis. Several members of the Medical Society of the Hospitals, relying on the data of clinical etiology, the symptoms observed, the lesions noted, and the results of different kinds of treatment commonly resorted to in chorea, differed with Dr. Milian, and refused to admit the syphilitic origin of that disease.

J. J. C.

THE MORTALITY OF THE CITY OF TORONTO IN 1911

According to the annual report of the Registrar-General of Ontario for 1911, which was issued so early as November, 1912, the total mortality of Toronto for 1911 was 6,011, including in that enumeration malformations and still-births. Allowing for a population of 376,538, the mortality rate per 1,000 would be 15.9.

Placing the deaths under their proper headings, we find that 1,418 were due to general diseases; 710 to diseases of the digestive apparatus; 625 to diseases of the circulatory apparatus; 622 to diseases of the respiratory apparatus; 548 to diseases of early infancy; 501 to still-births; 486 to diseases of the nervous system and the organs of special sense; 331 to affections produced by external causes; 273 to old age; 233 to non-venereal diseases of the genito-urinary system and adnexa; 74 to the puerperal state; 41 to malformations; 25 to diseases of the skin and of the cellular tissue; 13 to diseases of the bones (tuberculosis excepted); 111 were ascribed to causes of death not specified or ill-defined.

Eliminating 41 malformations and 501 still-births, 5,469 individuals, who had led an extra-uterine life of longer or shorter duration, died in Toronto, in 1911, being a death rate of 14.52 per 1,000. This is a very satisfactory showing, and one which proves, beyond a doubt, that Toronto is one of the most healthful cities in the world. Excluding still-births, the chief causes of nearly two-thirds of the deaths in Toronto in 1911 were: diseases of infancy 548; diarrhea and enteritis (under two years) 361; organic diseases of the heart, not including pericarditis and endocarditis 342; external causes (violence, traumatism, suicide, etc.) 331; pneumonia 302; tuberculosis of the lungs 295; cancer and other malignant tumors 255; non-venereal diseases of the genito-urinary apparatus 233; diseases of the arteries, atheroma, aneurism, etc., 183; diphtheria and croup 148;

cerebral hemorrhage 140; broncho-pneumonia 122; scarlet fever 122; diseases of the stomach, cancer excepted, 115; paralysis without specified cause 83; convulsions of infants 82; the puerperal state 74; simple meningitis 70; influenza 57; measles 55; diabetes 40. J. J. C.

THE NATIONAL INSURANCE ACT

THE National Insurance Act, 1911, which was a bone of contention between the British Government and the medical profession, is now in active operation. The medical campaign against the Government in opposition to the Act did not terminate as successfully as the doctors would have wished, although some important concessions were made by the Government. Last month the Insurance Commissioners issued to Insurance Committees throughout the British Isles a memorandum, advising them as to the steps to be taken to bring medical benefits into force. This was accompanied by a model letter of invitation from an Insurance Committee to doctors in the area, who desired to be placed on the panel, and model forms of agreement, which Insurance Committees might invite doctors in the area to sign. The amount of remuneration offered by the Government is at the rate of 6s. 6d. ($1.58) for each insured person for a full year, the amount of 6s. 6d. a head of insured persons to form a total round fund in any area, out of which payment would have to be provided for every kind of medical service, save that, in certain circumstances, a practi-

tioner who is authorized to dispense for his own patients would receive in addition the 1s. 6d. (36 cts.) assigned to defray the cost of drugs and appliances; 6d. (12 cts.) a head is also allowed for the treatment of insured persons suffering from tuberculosis. Confinements are not included. When the condition of the patient is such as to require services beyond the competence of an ordinary practitioner, the practitioner shall advise the patient as to the steps which should be taken, in order to obtain such treatment as his condition may require. The doctors are allowed a representation of one-tenth on the Insurance Committee; the court of inquiry is to consist of two medical men and one lawyer, instead of the Committee of Complaints; X-rays and bacteriology are not to be expected in ordinary diagnoses, nor major surgical proceedings in treatment. An insured person is not to have a claim on the services of any doctor on the panel, other than the practitioner of his choice; if a second opinion is considered necessary, the patient would have to defray the extra expense incurred by the consultation. No additional provision is made for the payment of an anesthetist. A small special fund is provided by the Government for mileage in "exceptionally sparsely populated" districts. Mileage is to be reckoned at three miles from the practitioner's residence. The income limit of the insured is placed at £160 a year ($777.60). In the letter of invitation to doctors alternative methods of remuneration are suggested, viz.: the capitation system, the payment by attendance system, or some form

of a blending of these systems. In any Insurance Committee area the Committee are advised to adopt the method of remuneration, which is found to be acceptable to the majority of those practitioners in their area, who indicate willingness to act on the panel.

As the National Insurance Act has now entered on its operative stage, any discussion of its faults may be relegated to the future. Its defects, as seen by medical practitioners, will certainly not be hidden; and, on the other hand, it may happen that such general practitioners as work on the panels of insurance areas may, after an experience of a year or two, look more favorably on the Act than they do at present. As far as insured persons are concerned, Englishmen of small means will be enabled to obtain as good medical advice and attendance as their wealthier countrymen secure by paying large fees. As the workingman generally tries to get the worth of his money, he will consult the doctor of his choice, for real or fancied ailments, and, in so doing, he will act wisely,—much more wisely than if he were to glean his notions of medicine from a perusal of the medical advertising columns of the daily newspapers.

The effects of the Act on voluntary hospitals in England are exciting grave apprehension. The House Committee of the London Hospital reports, that the cost of insuring the hospital employees would be about £850 a year. Worse still, a number of subscribers are withdrawing their support, on account of the Insurance Act and, as the income of that hos-

pital is chiefly from voluntary subscriptions, the outlook is becoming serious. Other English hospitals will have to suffer in the same way, and it seems likely that some financial scheme will have to be devised, to reimburse the voluntary hospitals for the money, which they will spend on patients, who are insured under the Act. J. J. C.

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Original Contributions

TREATMENT OF DIFFUSE SEPTIC PERITONITIS *

BY HERBERT A BRUCE, M.D., F.R.C.S.

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In 1880 Mikulicz[1] operated for the first time upon a perforating gastric ulcer, and suggested the possibility that laparotomy might be beneficial in diffuse perforative peritonitis. Lawson Tait[2], in 1883, and Leyden[3], in 1884, also recommended operative treatment, but in spite of this Schlange[4], von Bergmann's assistant, in a paper published in 1884, strongly emphasizes the inadvisability of laparotomy in the treatment of the condition. In 1886 Krönlein[5] advised immediate operation in perforation peritonitis, and expressed the opinion that, in view of the uniformly unsatisfactory results of medical treatment, recovery in one case out of many would warrant the adoption of surgical measures, but the first statistics of operative treatment of peritonitis were published in 1890, when Stühler[6], of Strasburg, collected 78 cases of drainage of the peritoneum.

A little more than twenty years ago recovery from diffuse septic peritonitis occurred only in exceptional cases, a diagnosis of peritonitis was practically equivalent to a sentence of death, and as a rule operation only accelerated the fatal termination. Scarcely any other disease can be mentioned, the mortality of which has been so greatly reduced by changes in treatment, and there is no doubt that great progress has been made in the treatment of all forms of peritonitis, more especially during the last ten years. Ten or fifteen years ago operation was undertaken only in cases of diffuse peritonitis in a very advanced stage, already complicated by toxemia, in which the prognosis was therefore practically hopeless. Improvement in methods of diagnosis has resulted in patients coming under the observation of the surgeon at an earlier stage of the disease, in many cases with-

*Read before the Academy of Medicine, Toronto, Jan. 7th, 1913.

in a few hours after the onset of the symptoms. The extensive experience of a large number of surgeons has conclusively proved that a rational operation, undertaken at an early stage, when the condition is still comparatively localized, will save many lives. There is up to the present no effective medical treatment of diffuse peritonitis, and the general reduction in mortality shown by recent statistics indicates that the advances in modern surgery have rendered recovery possible in a condition which was formerly regarded as practically incurable.

The most common form of septic peritonitis is that associated with disease of the vermiform appendix, and the increase in the knowledge of the pathological anatomy and symptomatology of appendicitis has therefore greatly contributed to the reduction in mortality. The next cause in order of frequency is perforation of ulcer of the stomach or duodenum, the prognosis of operation in both these and the appendicular cases being fairly good. Other conditions which may result in peritonitis are perforation of the intestines or gall bladder, typhoid perforation, wounds of the abdomen involving the digestive tract, and infection extending to the peritoneum through the Fallopian tubes.

The most severe forms of peritonitis are that associated with spontaneous or traumatic perforation of an abdominal viscus, and that originating from the appendix, both of which rapidly become generalized. In regard to gonorrheal peritonitis a distinction should be made between that due to rupture of or leakage from a sterile pyosalpinx, and that due to rupture of a pyosalpinx containing active gonococci or streptococci. We then have an acute, virulent, diffuse peritonitis, due to leakage from a tube recently infected by the gonococcus. This variety of gonorrheal peritonitis is illustrated in the case of a patient who came under my observation some years ago.

She was a young married woman of twenty-six, who was infected by her husband. Two weeks after infection she developed a pelvic peritonitis, which in four days had become diffused throughout the abdomen. On the fifth day she was acutely ill with rigidity of the entire abdomen, the temperature was 105 degrees F., and the pulse 140. The abdomen was opened and drained. Her symptoms were septicemic, and she died three days later.

If in a case of acute gonorrheal peritonitis there is no improvement in the general and local conditions in the course of a few hours, operation should be undertaken without delay.

In considering the prognosis of peritonitis resulting from perforation of the gall bladder, which is usually assumed to be extremely grave, a similar distinction should be made between that due to perforation of a gall bladder, the contents of which may be regarded as sterile, and that originating from perforation of a gall bladder containing pus. The former is comparatively benign, whilst the latter is an extremely malignant and dangerous condition. Another factor which influences the prognosis is the fact that the bile appears to exert an unfavorable influence upon the serosa, considerably reducing its capacity for resistance to the invading micro-organisms. The same may be said of the contents of the small intestine, after perforation of which the peritoneal serosa exhibits severe changes.

In 1910 Clairmont and von Haberer[6] published a case in which peritonitis supervened without perforation of the gall bladder. A similar case was subsequently reported by Schievelbein[7], and Doberauer[8] has recently reported two further cases. They attribute the condition to an abnormality in the macroscopically normal walls of the biliary duct, in one case apparently due to old biliary stasis, in one to gangrene of the bladder, in one to non-perforating traumatism, and in the fourth case to infection.

Surgery is the only treatment for typhoid perforation peritonitis. Unfortunately the diagnosis can very rarely be made before perforation, but an operation at the earliest possible moment after its occurrence will save the lives of many patients. Forbes Hawkes[9] is of opinion that mortality would be considerably reduced if operation could invariably be undertaken within two hours after perforation, and that recovery would probably result in at least 50% of cases, provided toxemia was not present. Operation is indicated by slight muscular rigidity and tenderness in the right iliac fossa or around the umbilicus. Some years ago I reported recovery following operation eighteen hours after perforation in a case of typhoid.

As regards the peritonitis due to wounds of the abdomen involving the digestive tract, Siegel[10] states that operations done within the first four hours have a mortality of 15.2 per cent., in

from five to eight hours 44 per cent., in from nine to twelve hours 63 per cent., and after twelve hours 70 per cent.

I should like to refer briefly to pneumococcal peritonitis, which is a very rare condition, and may be primary or secondary. Netter[11], who examined 140 cases bacteriologically, found the pneumococcus in two cases only. In this variety of peritonitis it is advisable to delay operation until an abscess has formed, as fatal results have frequently followed operation in an early stage. The treatment then consists of incision and drainage.

The variations in the application of the term "diffuse septic peritonitis" have led to much confusion. The results of pathological investigations indicate that in acute infection of the peritoneum general diffusion of the exudation throughout the peritoneal cavity rarely occurs, and that in such cases, more especially those associated with perforative appendicitis, the internal organs, with their ligaments and mesenteric attachments, tend to prevent and delay extension.

In regard to peritoneal infections after perforative appendicitis Kron[12] distinguishes diffuse pelvic peritonitis, diffuse unilateral peritonitis, unilocular peritonitis and multilocular peritonitis. Rauenbusch[13] distinguishes a supra-omental and infra-omental form, extension occurring from above downwards and from below upwards respectively. The most common form is that limited to the portion of the peritoneal cavity below the transverse colon.

Formerly we were accustomed to hear of post-operative peritonitis, but this should never be allowed to occur. Scrupulous attention to technique, and above all the covering of the hands of the operator by rubber gloves during operation, has added greatly to the safety of peritoneal operations. By substituting asepsis for antisepsis the defences of the serosa are preserved in their integrity. The perfection to which technique has now been brought prevents the entrance into the peritoneal cavity of germs from the digestive tract, the gall bladder, the tubes or the ovaries. This includes the carrying out of the greater part of the operation before the opening of the septic cavities, reduction to a minimum of the time during which they are open, and exact limitation of the field of operation.

It may be interesting here to mention that De Paoli and Callisti[14] claim that they have considerably improved their

operative statistics by the injection of nuclein of soda thirty-six to forty-eight hours before the performance of laparotomy, and that in a series of more than two hundred laparotomies for various abdominal conditions they have had one death only from septic peritonitis. Arcangelo[15] reports thirty laparotomies in which he has employed the same method, without a single case of post-operative infection.

To prove that this is unnecessary I may say that I can give a series of more than three hundred laparotomies done for various abdominal conditions, exclusive of disease involving the gastro-intestinal tract, without a death, and without any precautions other than careful attention to technique.

They claim also that these injections are useful as a test of individual resistance to infection. A violent reaction with toxic symptoms, and with only slight leucocytosis or no leucocytosis at all, indicates that resistance has been reduced to a minimum, whilst a moderate general reaction and marked leucocytosis indicates that the defences are powerful, and that operation may therefore be undertaken with a favorable prognosis. Their investigations have shown that the injections increase the bactericidal properties of the serum in regard to the colon bacillus, but have no influence on the streptococcus and staphylococcus.

Mortality has recently been very much reduced by the early recognition of appendicitis, which is the most common cause of peritonitis, and the removal of the appendix before the inflammation has extended to the peritoneum. In the rare cases in which the onset of peritonitis is coincident with perforation of the diseased appendix, disease of which has previously been latent as regards the production of symptoms, operation should be undertaken before inflammation of the serosa becomes very severe and extensive. I should like here again to emphasize the importance of a very rapidly performed operation. A diagnosis of the probable cause of the peritonitis should be made before the commencement of the operation, and during the operation it should be removed as promptly as possible.

All surgeons and the majority of physicians are now agreed that operation is invariably indicated in all cases of diffuse peritonitis. The only exception to this rule is pneumococcal peritonitis, in which, as previously stated, it is advisable to wait for the formation of an abscess. If no contra-indication is present

laparotomy should be undertaken without delay in all cases in which diffuse peritonitis is suspected, even if pus cannot be demonstrated. Early operation has frequently revealed the presence of advanced peritoneal inflammation and purulent exudation in cases in which the only symptoms were localized pain and rigidity. If in such cases measures for the relief of pain only had been adopted the condition would probably have become so advanced that little benefit could have been expected from operation. Up to the present the so-called "muscular defence" is the only generally recognized early symptom, but the general condition of the patient may be of assistance in early diagnosis.

A very important factor in the prognosis after surgical intervention is the defensive reaction of the peritoneal serosa, which renders it possible for it to deal with a considerable amount of septic material. Prognosis is also obviously more favorable if operation is undertaken before the onset of toxemia, and before the resistance of the patient is seriously impaired. Rutherford Morison[16] states that the prognosis is good if the heart is strong, the pulse of good volume and not over 100, but that it is invariably bad if cyanosis is present, the extremities are cold, and the pulse is over 120.

There has recently been a considerable amount of discussion as to whether all cases of peritonitis, without exception, should be operated upon or not. Some are of opinion that if there is little or no hope of saving the life of the patient relief of pain only should be attempted, whilst others maintain that it is absolutely impossible to be certain that recovery may not follow operation, even when a patient is apparently moribund. It must be said that there are cases of ultra-septic infection of the peritoneum in which operation is practically useless. These cases run a rapid course, and the defensive reaction of the peritoneum is so slight that they may be described as septicemia rather than peritonitis. Even in these desperate cases, however, operation is indicated if it represents the only chance for the patient, in spite of its almost invariably fatal results, and in some of these cases, operated upon by me when the patient was practically *in extremis*, recovery has resulted. It cannot be too strongly emphasized that delay in operation is most frequently responsible for the fatalities which occur. In cases which are too far advanced

to allow of removal of the cause of the peritonitis, a certain amount of relief may follow drainage of the abdomen by means of one or two small incisions.

Increased simplicity and rapidity in operation have undoubtedly greatly contributed to the reduction in mortality. Twenty years ago extensive flushing and evisceration were practised, the mortality being from 40 to 50 per cent., but it is now unanimously agreed that these severe methods of treatment have had their day, and are contra-indicated.

Technique.—As regards the incision, if a diagnosis has been made, it is of course made over the site of the primary lesion. In doubtful cases it should be made in the middle line, immediately below the umbilicus. If this reveals no lesion it is easily prolonged in an upward direction, so as to expose the stomach, duodenum and gall bladder. In doubtful cases Rutherford Morison excises the umbilicus by an elliptical incision, opening the abdomen in the centre. During operation the patient should be kept warm, and unnecessary manipulation of the intestines avoided. The details of the technique are of far less importance in relation to the results than the time which has elapsed since the onset of symptoms.

Amongst the most important factors in the improvement of the results of operation are:

1. The general adoption of Fowler's semi-sitting position, which facilitates drainage of the peritoneal cavity.
2. The injection of large quantities of saline solution, either by the subcutaneous or transrectal method.
3. Lavage of the stomach.
4. Reduction of the duration of the operation to a minimum.

The objects of operation are (1) Removal of the primary focus of disease, from which the peritonitis has originated, e.g., a gangrenous or perforated appendix, or closure of a perforation; (2) to provide for drainage. The latter tends to prevent the further resorption of infective material into the blood, whilst the reduction of intra-abdominal pressure facilitates respiration and circulation. With the object of increasing the rapidity and simplicity of the operation some writers have recently recommended that under certain circumstances the removal of the cause of the peritonitis should be abandoned, but it is still the general opinion, in which I concur, that the appendix should be

removed in practically every case of appendicular peritonitis, and all pus pockets broken up, the operation being carried out with the least possible manipulation of the peritoneum.

The question as to how the exudation shall be dealt with after the cause of the peritonitis is removed has given rise to a considerable amount of discussion, the alternatives suggested being as follows:

1. That it should be left in the peritoneal cavity.
2. That it should be flushed out.
3. That it should be mopped out.
4. That flushing should be practised in some cases, mopping in others.

The answer to this question is obviously dependent upon the importance which is attached to the thorough cleansing of the peritoneal cavity from the septic products present in it.

In deciding as to the respective merits of the moist and dry methods of cleansing the peritoneal cavity it is of the utmost importance that the characteristics of the normal and pathological serosa should be fully appreciated. Von Haberer and Clairmont[16] have shown that the peritoneal serosa manifests the greatest capacity for resorption at the level of the sub-diaphragmatic spaces, and Noetzel[17] has demonstrated its defensive reaction in regard to infection. The great omentum, which is very movable and is supplied abundantly with lymphatics, plays an important rôle in the defence of the peritoneum, as does also the natural tendency, which is present in many instances, for the inflammation to become encysted. One of the great advantages of the dry method, as compared with that of flushing out the peritoneal cavity, is that it occupies much less time, and thus tends to minimize shock.

Murphy and other American surgeons are of opinion that the one essential point is that the primary cause of the condition should be removed with as little delay and injury to the peritoneum as possible, and with a minimum amount of narcosis. As the exudation itself possesses bactericidal properties, and is therefore an important factor in defence, it appears inadvisable to attempt thorough cleansing of the peritoneal cavity. Murphy has accordingly abandoned both flushing and mopping, believing that these measures tend to reduce the protective forces of the serosa, as represented by the leucocytes, and leaves the toxic

material which still remains in the cavity to be dealt with by the natural resistance of the serosa. Bauer[18] recommends that the fibrinous or fibrinopurulent deposits, which are observed on the intestines in some cases, should also not be interfered with.

As opposed to Murphy's opinion, some surgeons, including Körte, Kocher[19], Lennander[20], von Eiselsberg[21], Bruns[22], Kümmell[23], Rehn and Noetzel[17], still maintain that great service is rendered to the organism by removal of as much of the septic material as possible, and that whilst flushing is suitable in some cases, mopping is preferable in others. Rutherford Morison reserves cleansing the peritoneum for cases in which operation has been done at an early stage, and there has been extensive extravasation into the peritoneal cavity, as in rupture of a viscus.

Some surgeons, including Bond[24] and Blake[25], whilst not in favor of flushing as a routine procedure, recommend it in cases in which foreign material other than pus is present, such as particles of food and feces.

I am personally thoroughly in accord with Murphy's opinion in this regard, and abandoned the practice of flushing out the abdomen many years ago. Neither am I in the habit of mopping out the pus, but my object in these cases is first of all to remove the cause of the peritonitis, and secondly to provide drainage, the operation being done as speedily as possible. Since adopting this method my results have been infinitely better than they were when I wasted time in flushing out the abdomen.

In regard to drainage, Lücke[26] was the first to insert a large drainage tube in Douglas' pouch in a case of peritonitis. The majority of surgeons are of opinion that it is advisable to make provision for the escape of the septic products left in the peritoneal cavity and of any exudation which may subsequently form, but that the arrangements for drainage should be as simple as possible, consisting of one drainage tube in the area of primary infection, and another in Douglas' pouch. Cigarette drains are preferable to unprotected rubber tubes. Murphy, however, insists on the importance of tubular drainage. At the meeting of the British Medical Association in 1911, Mr. Leonard Bidwell[27] recommended rectal drainage, which I consider very objectionable.

The general rule that drainage tubes should be left in position until secretion ceases, or has at least appreciably diminished

in quantity, is not applicable to diffuse peritonitis. It is a difficult question to decide how long drainage should be continued in any given case, owing to the fact that purulent secretion persists almost as long as the drain remains *in situ,* indicating a possibility that its presence may contribute to the continuance of the suppuration. Noetzel recommends that the drainage tubes should be frequently changed, the tube inserted on each successive occasion being of smaller calibre than the one preceding it. He believes that in this way secretion is gradually reduced without mechanical irritation, and that contraction of the granulation canal is rendered possible, without sudden occlusion of its orifice.

According to Hartmann[28] the chief indication for drainage is the presence of non-resorbable particles, such as gangrenous serosa in contact with a gangrenous appendix. Blake[29] gives the following indications:

1. Drainage should be employed only in the presence of necrotic material, which may form a nucleus for infection.

2. If drainage is necessary, a large drainage tube should be used.

3. The drainage tubes should remain in position until all necrotic material has escaped, and then promptly removed.

Gauze tamponnage is contra-indicated in these cases. The softening effects, together with the increase of inflammatory reaction and of secretion, which are so beneficial in phlegmonous processes, are injurious in septic peritonitis. Another harmful result is the compression of the intestinal coils necessitated by the space which it occupies.

In certain rare cases drainage may be unnecessary, and some have gone so far as to practice complete closure of the wound in cases in which the peritonitis is not very far advanced, and the septic contents of the cavity are not very toxic in character.

Amongst those who are in favor of primary closure of the wound are Bauer[18], Rotter[30] and Grant Andrew[31]. Hartmann and Blake[29] also report good results from it in cases operated upon at a very early stage. Bauer, who removes the pus either by flushing or mopping, uses the method almost exclusively in cases in which the pus is entirely free and encapsulation has not occurred. He states that in his experience it has the following advantages:

1. Intestinal peristalsis returns much more rapidly.
2. Attacks of vomiting are rare and soon cease altogether.
3. Convalescence is shortened, and the patient is therefore able to resume his occupation more quickly.

Rotter also has abandoned drainage, with the following exceptions:

1. Cases in which there is a bleeding point which cannot be arrested.
2. When there is loss of peritoneal substance.
3. When the peritoneum is purulent and necrotic.
4. When there are budding surfaces covered by granulations.

The operators mentioned above practise either flushing or mopping out of the exudation from the peritoneal cavity in cases in which drainage is not employed.

My own practice is to use a combination of cigarette drains and rubber tubes. When operating in a case of septic peritonitis due to appendicitis I put a cigarette drain down to the site of the appendix, and then make a small suprapubic opening, and insert a split rubber tube, containing a small piece of iodoform gauze, into Douglas' pouch. In early cases I have frequently passed a cigarette drain down from the inguinal wound, along the side of the pelvis, and into Douglas' pouch, without making a second incision. This method is undoubtedly sufficient in many cases, and drainage introduced in this way should give less likelihood of troublesome adhesions.

The elevated position of the head and trunk, known as the Fowler position, has now been generally adopted, and a study of the statistics shows that it has greatly reduced the mortality of peritonitis. It considerably facilitates drainage, the fluid tending to fall into the pelvis, the serosa of which absorbs less than that of the subdiaphragmatic region, and it also facilitates respiration. The patient is usually placed in the Fowler position immediately after operation, but many surgeons now recommend that when moving patients suffering from any acute abdominal condition to the hospital they should be placed in the ambulance in a semi-sitting position, should remain in this position until the operation is performed, and of course after the operation until all danger is past.

Mr. H. J. Paterson[32] says that in his opinion the Fowler position tends to prevent subdiaphragmatic abscess, whilst Dr.

Gerster[33] states that since its adoption at the Mount Sinai Hospital in 1905 subphrenic abscess has been much more common. In my experience the Fowler position has reduced the tendency to subdiaphragmatic abscess, having only had two cases since its adoption, as against four cases in the same length of time previous to this.

Whilst Dr. Bevan[6] recognizes the advantages of the Fowler position, he points out that it is advisable not to use it in an unduly exaggerated form. His own practice is to allow the patient to lie flat in bed, whilst the head of the bed is elevated from eighteen to twenty inches by two chairs. In order to prevent the patient from sliding down in bed a bolster is placed below the buttocks, and fixed to the head of the bed by strips of roller bandage.

In order to facilitate the maintenance of the Fowler position I have during the last two or three years been using a Gatch bed, which I have found of the greatest possible value. It not only ensures the patients' being kept in the Fowler position, but they find it so comfortable that after it has been decided that they need no longer be kept in this position they frequently ask to be allowed to remain on the Gatch bed, as they find it very much more comfortable than the prone position, and infinitely more comfortable than sitting up with a back rest and the bolster, as referred to above.

Walther, of Paris, has recommended lateral decubitus as a substitute for the Fowler position, but in my opinion without good reason.

The chief object of Murphy's method of proctolysis is the prevention of peritoneal resorption. The fluid absorbed by the rectum increases diuresis, assuages thirst, and improves the pulse and general condition. Murphy uses a solution of 7 grains each of chloride of sodium and chloride of calcium to 1,000 of water, at a temperature of about 38 degrees C., and finds that nine to ten litres, entering the rectum in twenty-four hours, can be tolerated without inconvenience to the patient. This method of treatment, together with the Fowler position, are the chief factors in the tremendous improvement in the results obtained in the treatment of diffuse peritonitis.

One of the characteristics of saline solution is its tendency to produce hyperemia, and in this connection it should be remem

bered that Bier teaches that hyperemia exerts a highly antibacterial influence. Noetzel has also demonstrated that intense hyperemia, with abundant secretion of leucocytes, may be produced by warm saline solution.

In cardiac collapse, the intravenous infusion of normal saline containing a few drops of adrenalin, as recommended by Heidenhain[28], may be useful, and the same may be said of subcutaneous injections of camphorated oil, ether, caffeine or strychnine.

Halpenny and Gorell[34] suggest the possibility that the beneficial effects of saline per rectum may be due to the very marked dilution of the toxins, which facilitates their neutralization, and thus increases resistance to the toxemia.

Koch [35] states that in his experience appendicostomy has been much more beneficial in the treatment of peritonitis than continuous proctolysis; but the latter is so much simpler and the results so good that I very much prefer it.

If there is persistent tachycardia, digitalis in small doses, or the application of ice on the heart, may be useful. Turpentine stupes sometimes give relief in cases in which there is marked abdominal distension. Some surgeons are in the habit of giving pituitary extract after operation, and claim that it increases intra-abdominal pressure and stimulates intestinal peristalsis.

Opiates are contra-indicated, as they may increase the already existing toxemia, and prevent peristalsis and leucocytosis.

Vomiting.—If vomiting is troublesome, lavage of the stomach may be practised, but unfortunately, the procedure is sometimes painful, and has to be frequently repeated. Dr. Gerster[33] states that at the Mount Sinai Hospital they perform lavage of the stomach before operation if indicated by persistent vomiting, if possible before the patient is anesthetized. Noetzel recommends it as a prophylactic measure, and continues to repeat it until the stomach has resumed its normal mobility. He is of opinion that gastric lavage, commenced at an early stage, and continued for a sufficiently long period, is the only certain means of preventing acute dilatation of the stomach, which is usually not recognized until too late, and is almost invariably fatal.

For post-operative vomiting, Westerman[36] recommends continuous siphonage by means of a tube inserted through the nose, fastened by a ribbon to the head, and emptying itself at its free extremity into a vessel placed at the side of the bed. Laxatives

should not be administered until after the cessation of projectile vomiting.

CONTINUOUS CURRENT OF OXYGEN.

Weiss and Sencert[37] practise suprapubic drainage, and in order to facilitate it, pass a continuous current of gaseous oxygen through the hypogastric tube. This results in evacuation of the pelvic and peritoneal fluid, and may prevent the formation of adhesions. They have shown, both clinically and experimentally, that the current of oxygen tends to produce hyperemia of the serosa, which materially increases its bactericidal and phagocytic characteristics, arrests the development of the bacteria, and neutralizes their toxins. By this method, of which I have so far had no experience, they have recently obtained four recoveries out of five cases.

INJECTIONS OF CAMPHORATED OIL.

Efforts have also been made to increase peritoneal resistance by the injection of horse serum (Pettit) or bacillus acidi lactici (Rogers).

With the object of reducing the resorptive capacity of the peritoneal serosa, Glimm[38] has made experimental intraperitoneal injections of from two hundred to three hundred grammes of camphorated oil (one in one hundred). He claims that it is an excellent general tonic, and that it occludes temporarily the subserous lymphatics, rendering it impossible for them to absorb other products, and preventing general infection, toxemia and the formation of adhesions. Leriche[39] reports good results in four cases from the injection of camphorated oil after operation.

Hoehne[40] states that he has had satisfactory results in more than a hundred and twenty cases from the injection of camphorated oil before laparotomy, with the object of preventing the supervention of peritonitis. From one to four days before operation he injects from twenty to thirty cc. of one to ten per cent. oil, and this produces an ante-operative irritation of the peritoneum. According to him, the resulting exudation is gradually absorbed without the production of adhesions.

I cannot see why this should be used to prevent peritonitis, although, if it will prevent absorption of toxic products, there can be no objection to its use in case of diffuse septic peritonitis after the cause has been dealt with.

INTESTINAL OBSTRUCTION.

Intestinal obstruction is a very common complication of diffuse peritonitis, and in the fatal cases is the most frequent cause of death.

Intestinal obstruction occurs in two forms: (1) Paralytic ileus, and (2) mechanical obstruction.

The first form, that is the paralytic form of obstruction, is usually met with soon after operation in cases in which the peritonitis has been present for some days. After operation and drainage in diffuse peritonitis there is always a possibility of the supervention of paralytic ileus, and measures should be taken to prevent it. When the bowels have moved after operation, however, there is no longer any fear of this form of obstruction. The danger, then, is from mechanical obstruction, which will occur when adhesions have formed, usually at the end of a week or ten days.

Intestinal paralysis endangers life in one of two ways: (1) By its mechanical results, which include compression of the heart in an upward direction, compression of the lungs, and interference with the circulation in the abdominal and thoracic cavities; (2) by general toxemia, due to resorption of bacteria and toxins from the intestinal contents.

When the obstruction is due to a slight or localized peritonitis it may be relieved by saline cathartics, enemata, and drugs which stimulate peristalsis. Saline cathartics may also be of value in the post-operative paralytic obstruction so often associated with diffuse peritonitis. Strychnine, atropine and physostigmine excite the intestinal fibres and stimulate peristalsis, but physostigmine is the most effectual of these drugs. Salicylate of physostigmine should be injected in doses of grs. 1/50 every two hours for three doses, and then every four hours. Other drugs which have been recommended are oil of ricini and calomel.

I have occasionally found benefit from the use of hot fomentations, with a little sprinkling of turpentine in cases of great

abdominal distension. It is quite possible that the resulting hyperemia may influence the circulation in the intestinal coils, and thus favor peristalsis.

If, however, at the time of operation the coils of intestine are seen to be distended and thinned it is useless and dangerous to employ medical measures. Cecostomy or appendicostomy may be of service, but in severe and advanced cases enterostomy should be performed. In exceptionally severe cases it may be necessary to make multiple fistulæ. Volterrani has recently published eight cases, six of which were cured by enterostomy.

My results in enterostomy have not been so fortunate, and I do not think it advisable to establish intestinal fistulæ, excepting as a last resource, in view of the unpleasant nature of the complication, and the fact that fistulæ of the small intestine and cecum have a deleterious influence upon nutrition. In apparently hopeless cases, I have made multiple punctures of the intestines by means of a fine canula, the openings afterwards being closed. In two cases at least this procedure has saved the life of the patients, and in the other cases it has at least added very considerably to their comfort.

I should like especially to emphasize the importance of careful observation in regard to the symptoms of mechanical obstruction, which, as previously mentioned, usually appear at the end of a week or ten days, and to urge immediate operation. If, at the end of a few days or a week, the patient suffers from nausea and vomiting, and if a purgative or enema is not effective, it is in my opinion very wrong to delay more than a few hours before resorting to surgical measures. If much time is wasted in this way the patient will become so weak that even though the operation is performed later and the obstruction relieved recovery will not follow.

Since I have kept a close watch for mechanical obstruction, and have made it a rule to operate at once, I have not lost a single case from this cause; whereas, a few years ago, several cases were lost, owing to the fact that operation was delayed in the forlorn hope of a result from purgatives and enemata. Several patients operated upon in the country, in whom this complication appeared at the end of a week or ten days, have lost their lives because the surgeon was not called again to give the necessary relief by a second operation.

BACTERIOLOGY.

There is still considerable difference of opinion as to whether the bacteriological findings have any material influence on the prognosis. Haim[41] has recently published the results of extensive investigations in this connection, and states that they indicate that the rare cases of pure streptococcic and pneumococcic infection produce severe constitutional symptoms, are frequently associated with a slightly abnormal appendix, run a particularly severe course, and have a higher mortality than other varieties of peritonitis, especially the cases associated with a pure infection by the colon bacillus. He finds that streptococci and pneumococci predominate in cases in which there is general involvement of the cavity, whilst the colon bacillus is most often associated with the encapsulated variety of peritonitis. The comparative mortality of cases of streptococcic and pneumococcic peritonitis operated upon at an early stage, as compared with that of the colon bacillus peritonitis, is 66 per cent. and 20 per cent., whilst in those operated upon after forty-eight hours, it is 75 per cent. and 43.7 per cent. Haim reports twenty-seven cases of peritonitis, with fourteen deaths. Streptococci were demonstrated in nine of these cases, eight of which ended fatally. When infection is due to the streptococcus or pneumococcus death usually results from the infection alone, whilst in other cases the patients more often die from intestinal obstruction, embolism, thrombosis or pneumonia.

Dudgeon and Sargent[42] have pointed out that peritonitis due to microbic infection represents a protective reaction of the peritoneal serosa. They find that cases which recover, if examined bacteriologically, almost invariably exhibit primary infection by the staphylococcus pyogenes albus, and they therefore regard the peritoneal fluid containing this organism as being of a protective nature.

On the other hand, Mr. Rutherford Morison, at the meeting of the British Medical Association in 1911, stated that in his opinion the nature of the infective agent is of practically no significance in relation to prognosis, and Noetzel agrees with this. Noetzel states that recovery has occurred in several cases of pure streptococcic infection which have come under observation at Rehn's clinic, and he thinks that cases of this variety are so rare

that the number is not sufficiently large to allow of a satisfactory comparison with regard to prognosis. He also points out that infection by the colon bacillus may be exceedingly severe, and that many patients die from it.

STATISTICS.

The extraordinary variations in the results reported by different writers are apparently chiefly dependent upon the differences which have been previously referred to in the application of the term "diffuse peritonitis," and upon the fact that in some cases the severity of the symptoms does not correspond to the extent of inflammation. In not a few cases, in which the classical symptom-complex is practically absent, the whole of the peritoneal cavity is found to be involved on opening the abdomen. It is also obvious from a study of the statistics that in some districts, or in the practice of a particular surgeon, opportunities of operating at an early stage are more frequent, and this naturally tends to improve the results. This may be partially due to the circumstances of the people in the neighborhood, to financial conditions, and also to a certain extent to the fact that the general practitioners are favorably impressed in regard to the value of surgery in the treatment of diffuse peritonitis. The statistics also indicate that recovery may result after the most various methods of operation.

In 1890, Stühler, of Strásburg, reported seventy-eight cases of drainage of the peritoneum for peritonitis, with fifty cures and twenty-eight deaths. In 1892, Körte[43] reported nineteen cases operated upon, with six recoveries and thirteen deaths (68.5%), and in 1897, he collected one hundred and thirty-three cases from literature, with fifty-one recoveries and eighty-two deaths (61.8%). From the literature appearing between 1885 and 1893 Mikuliez[45] collected thirty-five cases, with a mortality of 97%, and sixty-eight cases from that published between 1894 and 1896, the mortality being reduced to 52.4 per cent.

The Fowler position was first recommended in 1904 by George and Russell Fowler[45], who reported one hundred cases operated upon between 1901 and 1904, with sixty-seven recoveries and thirty-three deaths (33%).

Murphy's[46] technique, which is now generally adopted, and which has given excellent results, consists in rapid removal of

the cause of the peritonitis, drainage of the lower part of the pelvis, the Fowler position, rectal proctolysis, and the prevention of peristalsis by withholding food and liquids by the mouth.

The treatment recommended by Noetzel in 1905[47] closely approximates to this, but he recommends lavage of the stomach as a routine procedure, and does not withhold food and liquids by the mouth. Dépage, of Brussels[48], at the meeting of the French Congress of Surgeons, in 1911, stated that since 1906, at which time he adopted a method analogous to that of Murphy, his mortality has diminished from 40% to 9%. At the meeting of the American Surgical Association, in 1908, Dr. Murphy reported fifty cases of peritonitis, chiefly due to the appendix, with only two deaths. Most of the cases were operated upon in from twenty-two to thirty hours after the onset of symptoms.

In 1902, Rehn[49] reported ninety-three cases, with forty-two cures and fifty-one deaths (54.8%). In 1905, Noetzel reported two hundred and forty-one cases from Rehn's clinic, with one hundred and twenty-one cures and one hundred and twenty deaths (50%). In 1909 he reported four hundred and forty-nine cases, operated upon between 1891 and 1909, with a collective mortality of 38%, and stated that, during the whole of this time not a single case, however advanced, and even moribund, was refused operation. Between 1900 and 1909, the mortality in the appendicular cases has been gradually reduced from 60% to 14%. The cases reported in 1909 include, in addition to the appendicular cases, sixty-one due to pyosalpinx, with a mortality of 31%; fifteen of puerperal peritonitis, with a mortality of 53%; twenty-seven due to gastric perforation, with a mortality of 37%; nineteen to intestinal perforation, with a mortality of 74%; eleven to perforation of the gall bladder, with a mortality of 55%; four to perforation of the urinary bladder, with a mortality of 50%; three cases of pneumococcal peritonitis, with a mortality of 33%, and one case due to coprostasis, which recovered.

According to Rehn, the principles of treatment of infective purulent processes in the peritoneum are the same in both circumscribed and diffuse suppuration. His method consists in free exposure of the focus of suppuration, flushing with warm saline solution, and closure of the wound with the exception of an aperture for drainage of the deeper part of the pelvis. Noetzel

is of opinion that the reduction in mortality is the more satisfactory owing to the fact that a definite prognosis cannot be made in peritonitis, and that there are so many possible causes of death, such as pneumonia, sepsis, subphrenic abscess, peritoneal phlegmon, ileus and inanition.

In 1910, Dr. Gerster reported 609 cases of peritonitis operated upon at the Mount Sinai Hospital between 1899 and 1908, 461 being due to appendicitis. His experience has shown that immediate operation is almost invariably preferable to delay, but that it should be as simple as possible, and patients are, as a rule, operated upon within an hour after admission to the hospital. In the appendicular cases the mortality has been gradually reduced from 79%, in 1899, to 14%, in 1908. As only a small proportion of the cases came under observation within forty-eight hours, the results show that rational treatment of advanced cases will save a considerable proportion of them. His method is to deal with the cause of the peritonitis, to make provision for drainage, but not to flush out the peritoneal cavity. He employs Murphy's method of treatment.

The 132 cases due to other causes than appendicitis included five due to tumor perforation, with a mortality of 100%; seventeen due to intestinal perforation, with a mortality of 76.5%; sixteen due to complications of hernia, with a mortality of 87.5%; twenty-three to typhoid perforation, with a mortality of 73.9%; thirteen to perforation of gastric and duodenal ulcer, with a mortality of 46.1%; three to perforation of liver abscess, with a mortality of 66.6%; one fatal case of mesenteric thrombosis; eight due to volvulus and intussusception, with a mortality of 87.5%; twenty-four to lesions of the biliary tract, with a mortality of 66.6%; six to hemorrhagic pancreatitis, with a mortality of 83.3%; twenty to unknown causes, six being moribund, and not operated upon, mortality 70%.

In 1910, Kron collected 1914 cases from various sources, the average mortality being 42%. On analyzing the statistics, he finds that in 1906 Kümmell reported a mortality of 90%, and in 1910 a mortality of 12%. In 1906, Sonnenburg reported a mortality of 76% in cases reported between 1896 and 1899, and in 1907 a mortality of 41% in cases reported between 1900 and 1907.

At the Congress of French Surgeons, held in Paris in 1911, Hartmann reported 56 cases, operated upon at the Bichat Hospital between 1908 and 1911, 46 being of appendicular origin. Of the appendicular cases, 15 were operated upon within the first thirty-six hours with no mortality; ten during the first forty-eight hours, with a mortality of 10%; 13 in from two to four days, with a mortality of 38.5%, and eight operated upon after the fourth day, with death in every case.

Three cases of gastric or duodenal perforation were operated upon in from six to twelve hours after the onset of symptoms, with recovery in every case. The remaining seven cases, two of which were due to intestinal perforation, three to disease of the uterus or adnexa, one to acute enteritis of the large intestine, and one to perforation of the biliary bladder, did not come under observation for some considerable time after the onset of symptoms, and all died. The patient with perforation of the biliary bladder was not operated upon until four days after perforation had occurred.

The results in these cases confirm the assumption that early intervention is the most important factor in success, *and indicate that the fate of the patient is therefore dependent upon the early diagnosis made by the physician, and upon the prompt removal of the primary cause of the peritonitis.* Further support is given to this view by the fifty cases with only two deaths reported by Murphy, all of which were operated upon within three to forty hours after the onset of symptoms.

As regards ulcer of the stomach and duodenum, Terrier and Hartmann[50] report fifty-three cases operated upon within twelve hours with 16 deaths (30%); 38 operated upon in from twelve to twenty-four hours with 22 deaths (58%), and 29 in from 24 to 48 hours with 22 deaths (76%).

Siegel states that in peritonitis due to abdominal wounds involving the digestive tract operation within the first four hours, had a mortality of 15%; within five to eight hours 44%; within nine to twelve hours, 66.6%, and after twelve hours. 70%.

A few surgeons have recently reported good results from primary suture of the wound without drainage in cases of peritonitis operated upon at an early stage.

In Professor Rotter's clinic, 151 cases of appendicular peritonitis were operated upon between January, 1910, and October, 1911. In the thirty cases in which drainage was employed there were twelve deaths (40%), whilst in the one hundred and twenty-one cases which were treated by primary suture there were only 20 deaths (16.5%). As previously stated, he now provides for drainage in exceptional cases only.

Bauer is one of the most ardent advocates of primary suture, and spoke in favor of it at the Meetings of the Danischen Chirurgischen Geselleschaft in 1910 and 1911. In 1911, he reported 115 cases of appendicular peritonitis, 67 of which were treated by primary suture, with 62 cures and 5 deaths (7.5%), and 38 by drainage, with 32 cures and 6 deaths (16.5%). Of 14 cases due to perforation of gastric or duodenal ulcer, 10 were treated by primary suture, with 2 deaths (20%), 4 by drainage, with 2 deaths (50%). Ten cases were due to pyosalpinx. Of the five cases which were sutured without drainage, all recovered, whilst of the five in which drainage was employed one died. Of the remaining 15 cases (cholecystitis, typhoid perforation, perforation of gastro-intestinal tumor), 6 were treated by primary suture, with 3 cures and 3 deaths (50%); 9 by drainage, with 4 cures and 5 deaths (54.5%). He considers that these results indicate the error of extensive and illusory drainage of the peritoneum.

Kryloff[51] reports 40 cases of typhoid perforation peritonitis, with 8 cures and 32 deaths (80%). Eight of these were operated upon within four hours after perforation, with four cures and four deaths (50%); three between four and twelve hours after perforation, with 3 deaths (100%); eight between twelve and twenty-four hours after perforation, with eight deaths (100%); five at the end of twenty-four hours after perforation, with four deaths (80%); two on the second day, with one cure and one death; one fatal case operated upon on the fourth day. In 13 cases, in which there was no definite history as to the exact time at which the perforation occurred, there were two cures and eleven deaths (84.6%).

TABLE SHOWING THE IMPORTANCE OF EARLY OPERATION.

Surgeon.	Variety of Peritonitis.	No. of Cases.	Time since Onset.	Cures.	D'ths.	Mortality.
Hartmann..	Appendicular	15	Within 36 hours.	15	..	..
Hartmann..	Appendicular	10	Within 48 hours.	9	1	10%
Hartmann..	Appendicular	13	From 2 to 4 days.	8	5	38.5%
Hartmann..	Appendicular	8	After 4th day.	..	8	100%
Hartmann..	Perforating Gastric and Duodenal Ulcer	53	Within 12 hours.	37	16	30%
Hartmann..	Perforating Gastric and Duodenal Ulcer	38	In 12 to 24 hours.	16	22	58%
Hartmann..	Perforating Gastric and Duodenal Ulcer	29	In 24 to 48 hours.	7	22	76%
Murphy	Chiefly Appendicular	50	In 3 to 40 hours.	48	2	4%
Siegel.....	Wounds involving Digestive Tract ..	..	Within 4 hours.	..	..	15%
Siegel.....	Wounds involving Digestive Tract ..	..	In 5 to 8 hours.	..	..	44%
Siegel.....	Wounds involving Digestive Tract ..	..	In 9 to 12 hours.	..	..	63.6%
Siegel.....	Wounds involving Digestive Tract ..	..	More than 12 hrs.	..	..	70%
Kryloff.....	Typhoid Perforation.	8	Within 4 hours.	4	4	50%
Kryloff.....	Typhoid Perforation.	3	4 to 12 hours.	..	3	100%
Kryloff.....	Typhoid Perforation.	8	12 to 24 hours.	..	8	100%
Kryloff.....	Typhoid Perforation.	5	In 24 hours.	1	4	80%
Kryloff.....	Typhoid Perforation.	2	In 2 days.	1	1	50%
Kryloff.....	Typhoid Perforation.	1	4th day.	..	1	100%
Kryloff.....	Typhoid Perforation.	13	No definite history.	2	11	84.6%

Conclusions.

1. I should like to strongly emphasize the necessity for early operation in all cases of acute appendicitis. In this way the majority of the cases of diffuse peritonitis dependent upon the appendix would be avoided.

2. The necessity for early recognition of peritonitis and prompt surgical intervention.

3. The importance of a rapidly performed operation, with as little handling of the intestines as is consistent with the removal of the primary cause of the peritonitis.

4. A split rubber tube containing iodoform gauze, or a cigarette drain, should be put down to the bottom of the pelvis through a suprapubic opening, as well as a cigarette drain to the site of the primary lesion. In many cases it will be sufficient to pass a cigarette drain or split tube through the appendicular incision, with or without a small cigarette drain passed to the site of the appendix. The rubber tube should be removed at the

end of forty-eight hours, and its place taken by a piece of iodoform gauze an inch wide.

5. The patient should be placed in the Fowler position as soon as a diagnosis of acute appendicitis or perforation is made, should retain this position until the operation is performed, and after operation until all danger is over, that is to say for a period of from four days to a week.

6. Proctolysis is of great value, and should always be used by the continuous drop method of Murphy.

7. Gastric lavage at the time of operation, and if vomiting is troublesome it should be repeated.

8. The administration of physostigmine, 1/50 grain every two hours for three doses, and then every four hours until the bowels move, seems to be of value.

9. In regard to morphine after operation, my rule is to allow a single dose of 1/6 to 1/4 grain if the pain is severe, which is not to be repeated. Many cases get on without any morphia at all, and from my own observation I am quite convinced that the employment of frequent doses of morphia in these cases increases the tendency to intestinal paresis and obstruction. The most troublesome cases are those in which the attending physician has ordered repeated doses of morphia. I know that many surgeons do employ morphia in repeated doses after operation, and claim that it has not only produced no ill effect, but has been beneficial, but this is contrary to my experience.

10. The morning after operation I order a 1-2-3 enema (i.e., an enema consisting of 1 oz. of glycerine, 2 oz. of magnesium sulphate, and 3 oz of water). This enema is repeated every morning for the first five or six days, and usually no purgative is given until the end of this time, when calomel, followed by a saline or a dose of castor oil, is given. If distension is troublesome, a rectal tube is inserted, and left in for some hours.

11. If symptoms of mechanical obstruction appear, immediate operation should be performed, without wasting time in giving enemata which are ineffectual.

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MEDICAL ASPECTS OF SEPTIC PERITONITIS*

BY JOHN FERGUSON, M.A., M.D., TORONTO.

Mr. President and Fellows:—

When I was requested to make a contribution to the programme of this evening on the subject of "Septic Peritonitis," I at once consented, for I have always felt that every Fellow should be willing to respond to the call of the Chair with the same readiness as does the individual member of a regiment to that of his superior officer. At the same time, I felt that the subject chosen for discussion was one of unusual importance; that the audience was a learned one, and that the best I might be able to offer must fall far below the merits of the occasion. Another difficulty at once confronted me, namely, that of being preceded by three distinguished surgeons; so that after they had expressed their views, from their several experiences, there would be but little left for me to say that would either interest or instruct. But, like Locksley, before Prince John, I shall draw my bow and do my best.

In the first place, let us look into the abdominal cavity. A little thought on the anatomical arrangement of the parts will reveal many reasons for the frequency with which disease makes its appearance in it. Many important organs, with complicated functions, are in close contact with each other, and these are, more or less, completely covered by the subject of our study to-night—the peritoneum. The peritoneum, in extent, if unfolded, would cover the entire body, or, in other words, would equal the area of the skin. In the adult, the intestinal canal varies from 15 to 30 feet in length. There are also the liver, the spleen, the pancreas, the kidneys, and the uterus, with their ducts and tubes. In the male, the peritoneum is a completely closed sac, while in the female, it opens upon the external world through the Fallopian tubes. It should be borne in mind that the peritoneum is richly supplied with blood-vessels and lymphatics; that it has definite secretory functions to perform, and that its absorptive powers are very great, especially in those parts known as the

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large omentum and the covering of the diaphragm. Here lies the key to much that makes for successful treatment—the keeping of infection away from the dangerous areas. A long list of investigators, beginning with Wegner in 1876 and including such names as Ludwig, Klein, V. Recklinghausen, Houston, Durham, Sargent, Metchnikoff, Flexner, Frankel, Grawitz, Orth, Adami, Dembrowski, Malcolm, Lanz, Welch, Gordon, Andrewes, Ross, Dudgeon, Graser, Roloff, Kanthack, Hardy, Meyer, Mittner, Waterhouse, and many others, have thrown a vast amount of light on the physiology and pathology of this membrane, so fragile in structure and so copious in function.

Coming to the etiology of peritonitis, there is much that one might say; and there is a certain amount that one ought to say in order to do justice to the question. This disease has been spoken of by many writers under the headings of primary and secondary. By the former term is understood that form of the disease in which no other causative or primary lesion is present. The peritoneal cavity becomes infected as the result of some general infection, as pneumococcic septicemia. Under this hematogenous variety come those cases that were formerly called idiopathic or rheumatic, and such like. The primary form of peritonitis occurred in 12 out of 106 cases reported by Flexner, and in 9 out of 105 observed in the Massachusetts General Hospital by Manahan. This gives 21 primary cases in 211, or a little less than 10 per cent. of all. Of these primary cases, it has been observed the pneumococcus is responsible for 90 per cent. of them, and the staphylococcus pyogenes aureus for about 8 per cent. These two organisms cause about 98 per cent. of all the attacks of septic peritonitis of the primary variety.

Coming now to the secondary form of septic peritonitis, Flexner and others give us two divisions—the endogenous, when the infection is from within the body and the exogenous when it is from without. In 162 cases there were 44 of the exogenous class, and 118 that should be considered endogenous. In these 162 cases the following organisms were found: The bacillus coli communis, 54 times, 11 times alone and 43 times combined with some other germ; the streptococcus pyogenes, 49 times, 12 times alone and 37 times combined; the staphylococcus aureus 18 times, 13 times alone and 5 times combined; the bacillus aërogenes capsulatus 8 times, twice alone and 6 times combined; staphy-

lococcus albus 7 times, 4 times alone and 3 times combined; the pneumococcus 7 times, twice alone and 5 times combined; the bacillus pyocyaneus 5 times, and always in combination; the bacillus proteus 5 times, twice alone and 3 times combined; the bacillus typhosus 3 times, and always combined. There were 6 cases of undetermined mixed infection. Other observers have obtained results that fairly closely agree with the foregoing. The gonococcus is responsible alone for some cases of peritonitis. Generally, however, some other organism is found along with it. The mixed cases are usually the more severe.

A good deal of careful work has been done on the site of the lesion through which the infecting organisms find their way into the peritoneal cavity. On this point the statistics from St. Thomas' Hospital are instructive. Intestinal obstruction of some sort caused 39 per cent., appendicitis 37 per cent., perforations of the alimentary tract, 11 per cent., the pelvic organs 6 per cent., and undetermined 5 per cent. Benda gives the site of the initial lesion in 446 cases as follows: The appendix 115, the stomach and duodenum 68, the rest of the intestines 118, the female genital organs 81, the gall bladder 10, the kidneys and urinary bladder 10, the pancreas 2, the spleen 1, post-operative 4, hematogenous 2, and of unknown origin 35. It will be noted, therefore, that Flexner gives about 9 per cent. as being primary, and the St. Thomas' statistics set down 7 per cent. in which no lesion could be found, and presumably of the primary type; while the figures of Benda give 37 as unknown and hematogenous, or say 8 per cent., that may be regarded as falling in this class.

As to the lesions that permit the passage of the various infecting organisms, these may be mentioned: Salpingitis, rotation of a tumor on its axis, ruptured extra uterine gestation, bleeding from an ovarian follicle, rupture of a hollow viscus, a tube, or duct, and openings through the abdominal walls, injury to the alimentary canal by chemicals, and intestinal obstruction.

In the study of the etiology of septic peritonitis, two things should be borne in mind. First, that the various bacilli or cocci may pass through an inflamed portion of the alimentary tract, or of a tube or duct, though there be no perforation. For example, in the case of an inflamed appendix, the several organisms may have found their way freely into the peritoneal cavity while the

appendix remains intact. In like manner, a severe inflammation of a portion of intestine, without a rupture, may be the means of causing peritoneal infection. The second point is that bacteria alone is not always sufficient. The defensive powers of the peritoneum may be sufficient to prevent the appearance of inflammation. All portions of the peritoneum are not equal in this regard, the lower part being more evolved along the lines of first defence. The organism, too, plays an important role. Against an invasion by the streptococcus pyogenes aureus, or the bacillus pyocyaneus, the peritoneum can make but a feeble resistance. Then, again, the peritoneal cavity may be attacked by such large numbers that its powers to absorb them and carry them away into the blood stream or the lymphatics are overwhelmed. A number of conditions lower the resistance of the peritoneum, such as foreign material in its cavity, rough handling in operations, drying its surface, or prolonged exposure to cold. Fluid in the cavity, Bright's disease, a recent injury, the escape into it of intestinal gases, and the breaking down of adhesions also favor the spread of infection and lessen nature's resistance.

The location of the lesion to some extent assists in coming to an estimate of the nature of the infection. In peritonitis due to gastric perforation, the organisms are usually the pneumococcus and a streptodiplococcus of rather low virulency. In perforation in the small intestines the bacillus coli and streptococci are almost invariably found. When the rupture occurs at the appendix there is some difference of opinion. Low and Lartigau regard the bacillus coli and diplococci to be causative. These authors also give a prominent place to the streptococci. On the other hand, Krogius, Kelly, Dudgeon and Sargent are inclined to think that the streptococci play a minor part in peritonitis of appendiceal origin. In puerperal peritonitis, streptococci are generally present. It should be remembered that some organisms possess greater persistency than others. Thus, the bacillus coli may outgrow the causative germ and be found alone post-mortem. It has been also observed that the bacillus coli will not grow in the presence of the bacillus pyocyaneus. This latter organism, though sometimes found in the intestinal canal, is not normally there. Below the middle of the intestinal canal anerobic and putrifacient forms are frequently found, such as the bacillus aerogenes capsulatus and the bacillus putrificus.

The form of organism has much to do with the course and prognosis of an attack of septic peritonitis. The virulency of the bacteria are in the following order, from mild to severe: First comes the staphylococcus albus, then the gonococcus cases. Next in order are those due to pneumococcic infection. Following this in order of activity we find the more virulent strains of the bacillus coli. The most fatal forms are those caused by the streptococcus pyogenes and the bacillus pyocyaneus, which are about equal in this respect. Against these two latter organisms nature alone can make but poor defence. The endothelium, the phagocytes, and the antibodies in the peritoneal moisture go down before such an invader as the streptococcus pyogenes aureus; there is severe shock, and the blood stream is speedily infected, and bacteriemia ensues. The small amount of thin fluid thrown out in such cases offers little opposition to the spread of the inflammation, or does almost nothing in the way of forming adhesions that localize the attack. The same may also be said of the bacillus pyocyaneus and virulent strains of bacillus coli. The pneumococcus is very fatal when it accompanies the same infection in some other organ.

Let us recall for a moment what is taking place in a case of septic peritonitis. Professor Andrewes has divided the resisting powers of the peritoneum into the physiological or the first line of defence, and the pathological or the second line of defence. In the first we find that strong currents of fluids in the vessels can do much to carry off the infecting bacteria. This stream can be greatly increased when the need for it arises. These fluids are loaded with antibodies. Then there are the mesoblasts, with their phagocytic powers, which can be thrown into the peritoneal cavity in great abundance. In these processes the omentum plays an important part. The endothelial cells of the peritoneum are shed freely, and possess markedly phagocytic capacity. Should these efforts fail, the second line is called into action, and there is leucytoses, hyperemia and exudation. This latter may be serous, serofibrinous, fibrinous, fibrino-purulent, purulent, sanious, or putrid. If the exudate contains much fibrin it fills the spaces between the intestinal coils and glues them together. In this way the exudate serves a useful purpose in limiting the field of infection. But all these efforts may fail and the inflammation may become diffuse or general, and the

system is overwhelmed with bacteria and their toxines. The intestinal walls become swollen and softened and lose tone. They may become friable and easily ruptured; the peritoneum strips off readily. The lymphatics are filled with exudates and cells, which Durham has shown are conveyed to the anterior mediastinal glands, these becoming seriously infected in bad cases. The liver, spleen, kidneys, and pancreas frequently show cloudy swelling. Whipple found in 23 severe cases of septic peritonitis infection necrosis ten times in the liver, and six times in the pancreas. The infection may extend to other serous membranes and the condition called polyserositis, or polyorrhomonitis appears.

What has already been said leads to a few words on prognosis. Much of the statistics of the past must be set aside, as surgery is continuously playing a more and more important rôle in the treatment of septic peritonitis. Nevertheless, enough is known to make this one of the gravest of maladies. In Treves' reported 100 cases there were 70 deaths. The disease tends to be most fatal at the two extremes of life, and debilitating conditions and intemperate habits add much to its gravity. Toxemia and septicemia are factors that largely determine the issue, and every effort should be made to prevent and control these. Among unfavorable symptoms may be mentioned rapid pulse, low temperature, abdominal distention, and absence of leucocytosis. The prognostic importance of the different kinds of infection has already been discussed. One of the most important considerations in the prognosis of this disease is that of the time that has elapsed from its inception to that of operation. "Operation within 12 hours should succeed, whereas, if postponed for 24 hours, the outlook is very grave." The late Dr. John C. Munro, of Boston, said: "Every surgeon of experience will frankly assert that a large share of his deaths and bad results come, not from surgery, but from previous ignorant or misdirected treatment of patients suffering from an inflamed peritoneum, before they are given into his hands." E. M. Corner and many others could be quoted to a similar effect. A glance once more at the statistics from St. Thomas' Hospital will make it clear that the prognosis is mainly dependent on the early and efficient intervention of the surgeon. Intestinal obstruction causes 39 per cent., appendicitis 37 per cent., and perforations 11 per cent. Here, then, 87 per

cent. of the cases can only be relieved by surgery. The remaining 13 per cent., from pelvic viscera and doubtful causes, will yield a further number demanding the aid of the surgeon. It may be said that at the lowest estimate at least 90 per cent. of all cases of septic peritonitis are essentially surgical. This fact places a heavy responsibility upon the physician, who is usually the first to see these cases, and who should seek the co-operation of a surgeon.

The physician should, therefore, be a master of the semeiology of the disease. He should be on the alert to recognize the abdominal pain, the tenderness, the nausea, the vomiting, and the changes of pulse and temperature. Attention should be given to detect rigidity of the muscles, as this is of great value in differentiating peritonitis from colic, volvulus, gall-stone attacks and the passage of renal calculi. There is in these states no real tenderness, and pressure may even afford relief. Ordinary tympanites is distinguished from peritonitis by the absence of tenderness and vomiting. The sunken, anxious face and the restlessness of the upper part of the body, with the immobility of the abdomen, should be noted. The pulse is small, weak, running, wiry, and usually above 120 per minute. Extreme meteorism may cause the liver dulness to disappear and lead to opinion that there is free gas in the peritoneal cavity; and on the other hand, free gas may not obliterate the liver dulness if there are adhesions. Diaphragmatic pleurisy may give rise to doubt, but there is a catch in the breath at the height of inspiration, and under firm pressure with the flat hand the abdomen relaxes at each inspiration, which is not the case in peritonitis. Copious vomiting, visible peristalsis, rapid onset of distention, the paroxysmal character of the pain, and, at first, the absence of fever, true tenderness, and rigidity, enable the diagnosis of acute obstruction to be made. The late Mr. Greig Smith said that if no gurgling was heard after five minutes' auscultation, there was complete intestinal paralysis. Dr. Nothnagel claimed that the elimination of large quantities of indican in the urine was a very valuable and constant sign of diffuse, acute peritonitis.

Diagnosis is the key to the situation, the master-word, the open sesame that will unbar the door to whatever measure of success may attend one's effort at treatment. Three phases of the diagnostic problem must be kept in view.

1. Those conditions that may lead to errors in diagnosis, and some of which may cause septic peritonitis, must be differentiated. These are: (a) ruptured tubal pregnancy, with its menstrual history, pelvic location, shock, and acute anemia; (b) acute enterocolitis, in which there is pain, tenderness, diarrheal colic, tenesmus, collapse, toxemia, but absence of rigidity; (c) referred abdominal pain caused by pleurisy and pneumonia, but the absence of tenderness and rigidity should clear the ground; (d) hysteria may be very misleading, but the stigmata of the true condition may be found by close observation; (e) intestinal obstruction due to intussusception, strangulation, volvulus, stricture, foreign bodies, and the dynamic form, as paralytic or spasmodic, but the absence of fever and true rigidity will assist in arriving at a true opinion; (f) acute pancreatitis, with its sudden onset, epigastric pain, tenderness, vomiting, collapse and distention, may cause much doubt, but the absence of indican from the urine is of great importance, and there is not the rigidity found in gastric perforation or acute peritonitis; (g) ruptured gall-bladder, which is usually preceded by indications pointing to disease, gall stones or jaundice.

2. The local manifestations: (a) Pain is almost always present. Its initial point may vary with the case, as the Morris point in appendicitis, pelvis in tubal cases, in the upper abdomen in gastric rupture. When the peritonitis becomes diffuse the pain is referred to the region of the navel. (b) Tenderness is a very constant symptom. It may be revealed on the slightest pressure, or some force may be required. At first it may be found only at the point of the initial lesion, but later on becomes general. (c) The position of the patient is characteristic, as the knees are drawn up, and the head raised. (d) Vomiting occurs early; it is frequent and small in amount. At first it is what is in the stomach of last meal; then it becomes bilious, later greenish, and may become brownish. Sometimes it is offensive, as if it contained intestinal contents. (e) The abdomen at first may be retracted; the muscles are tense and rigid. As the disease advances there is distention from the formation of gases, and the loss of peristalsis. The distention presses the diaphragm upwards, with accompanying symptoms. In time there may be a good deal of fluid. (f) Constipation is usual. In puerperal

peritonitis diarrhea is common. This is also true of pneumococcic infection.

3. The general symptoms are pronounced in most cases: (a) Shock is well marked, and collapse may come on early from the extent of peritoneum involved, the degree of toxemia. (b) The pulse is frequent, wiry, and hard, and runs from 120 to 170 per minute. (c) The face is anxious, pinched, ashy, cyanotic, clammy. (d) The breathing is rapid, shallow, and costal in type. (e) There is usually fever, though this may be absent. It may rise abruptly. It may range from little above normal to 104. (f) The urine is scant, frequently contains albumin, and the presence of indican is so constant and abundant as to be a valuable diagnostic sign.

Now for the goal of all our study, namely, treatment. Eminent physicians and surgeons alike contend that this is a surgical disease. This is true. It has a surgical side as well as a medical. That the abdominal or pelvic cavities must be opened in most cases there can be no doubt. On the other hand, the physician has duties to perform that may mean the life or death of the patient. As the physician is usually the first to see these cases, he has much to do with the laying of the foundations for the proper management of the case.

The first thing to consider is what to do when the patient is first seen, and before an operation is performed. The advice given by Mr. Corner cannot be improved upon, and may be thus stated:

1. Place the patient in the semi-erect Fowler position, as this limits infection to the lower portion of the abdominal cavity.

2. Give no food, and allow only very small sips of water, or a few ounces of normal saline solution per rectum every two or three hours. By this means intestinal peristalsis is greatly restrained, and the spread of infection checked.

3. Do not give opiates. This masks symptoms, lowers the resistance of the patient, and interferes with the occurrence of leucocytosis. It is much better to encourage the patient to bear the pain.

4. Wash out the stomach with a solution of bicarbonate of soda, grs. xx to the ounce. This assists in controlling vomiting and thereby mitigates suffering.

5. Do not waste time over vaccines, sera, and attempts at the

production of artificial leucocytosis. These measures are altogether too uncertain and time is too precious. These measures may be tried after an operation has been performed.

6. At once educate the patient to accept the benefits of operative treatment. Remember the statistics of Treves, with 30 per cent. recoveries; those of Koerte, with 35 per cent.; those of Haenel, with 37, and those of Krogius, with 28.5. Place against these figures the results of early and properly performed operative treatment. Murphy had 35 recoveries in 36 consecutive cases.

7. If the patient absolutely refuses the benefit of an operation, then treat on the starvation plan of Ochsner, the Fowler position and the maximum of fresh air. Wash out the stomach with the soda solution. Tympanites may be relieved by an enema containing some turpentine, chloroform and tincture assafetida, or by the use of the rectal tube. As opiates lessen leucocytosis, they should not be administered unless absolutely necessary. Both tympanites and pain may be relieved by a turpentine stupe.

The management of the case during operation, and subsequent to it, has been so thoroughly covered by Professors Bruce and Watson and Dr. Hay that there is little for me to say. I shall therefore content myself by merely naming what may be done. (a) The continuous administration of fluids per rectum; (b) vaccines and sera; (c) artificial leucocytosis; (d) washing out the stomach with soda solution if there is sickness; (e) abdominal distention may be treated with hot, dry flannels, an enema, the rectal tube, and the administration of eserin or atropine, or the injections of pituitary gland extract; (f) hiccough is relieved by gastric lavage, sinapism to the epigastrium, an enema, sedative and antispasmodic drugs, or a small amount of morphia. (g) The feeding must be done with the utmost care. Very little should be given at first and cautiously increased.

GENERAL PERITONITIS IN GYNECOLOGICAL AND OBSTETRICAL PRACTICE*

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Mr. President and Fellows,—

THE part allotted to me this evening is that of initiating the discussion on general peritonitis as met with in gynecology and obstetrics. Even when viewed from this limited standpoint the subject is a large one, and, in the short time at my disposal, I cannot cover the whole field. I shall, therefore, rather try to focus attention on one or two points dealing more especially with prophylaxis, and shall leave to the other speakers a detailed discussion of general causes and treatment.

Taking up the subject from the viewpoint of gynecology, the first thing that strikes us is the comparative rarity of general peritonitis as a sequel to purely pelvic lesions in women. Considering the large numbers of pus cases with which we have to deal, this at first sight appears strange, and a consideration of the causes underlying this comparative immunity is instructive both from the side of pathology and from the more practical standpoint of treatment. We shall see that general peritonitis in gynecological practice is to a large extent preventable if we have a proper conception of the pathological conditions and base our treatment on these.

In the rapid dissemination of an infective process in the general peritoneal cavity several factors play a part, viz., the action of gravity, the peristaltic movements of stomach and intestine, the great shock, producing a lowering of the vitality of the tissues and the virulent nature of the infecting organisms. In pelvic lesions, on the other hand, gravity tends to limit the process; there is comparatively little visceral movement; there is less shock and therefore a greater chance of tissue reaction which will limit the process, and lastly, the infecting organisms are often of a less virulent type than those present, say, in a per-

*Remarks made in the discussion on General Peritonitis at the Academy of Medicine, Toronto. January 7th, 1913.

forative lesion in the upper abdomen or appendix region. A peritonitis having its origin in the pelvic organs thus tends to remain localized, and this localization may or may not be followed by abscess formation.

The chief source of peritoneal infection in the female pelvis is the Fallopian tube. In practically every case of salpingitis there is an associated peritonitis, the organisms reaching the peritoneal surface either through the abdominal ostium or by a lymphatic extension through the tube wall. In most tubal infections, especially gonococcal ones, the extension of the inflammatory process is comparatively slow, and there is time for tissue reaction. The tube wall becomes edematous and thickened, the mucosa swells and there is a certain amount of gliding of one muscular coat on the other. The result is that the fimbriae become retracted within the lumen and peritoneal surface becomes adherent to peritoneal surface round the abdominal ostium. A large escape of infective material is thus prevented and the chances of a diffusion over the general peritoneal surface lessened. Peritoneal adhesions to surrounding structures form, and as distension increases the tube wall becomes thickened by the deposit of inflammatory material, and so a large pyosalpinx may result. After a time the infecting organism, especially if it be the gonococcus, tends to die out. Sometimes it is replaced by a secondary invasion of the bacillus coli, which, in its turn, may also die, leaving the pus fetid, but quite sterile. In such a case nature limits the infective process and we must be careful that any treatment which we may carry out does not interfere with this limitation.

The risk of such a pyosalpinx rupturing into the general peritoneal cavity is comparatively slight. Brickner[1], in May of 1912, was able to collect only 91 cases from the literature. Bonney[2], writing three years earlier, could only find trace of 44.

To operate through the abdomen during the early stage of a pyosalpinx, due to the gonococcus, or even the other pyogenic organisms, is to run a very great risk of setting up a generalized peritonitis, for the difficulties of removal may be so great that some escape of pus may occur. In such cases our treatment ought to be conservative, the patient being kept at rest and carefully watched. The Fowler position may be adopted, and if necessary opiates given to quiet visceral movement and allay pain.

For the latter purpose the application of hot fomentations or of an ice bag may also be used. If general toxic symptoms be severe and pus be obviously present drainage may be established through the vaginal roof. After a period of weeks, or it may be months when the temperature has returned to normal and signs of active inflammation have disappeared, removal of the tube or tubes may be undertaken. In the interval of waiting vaccines may be administered according to the nature of the infecting organisms. In gonococcal cases a mixed vaccine seems to hold out the greatest prospect of success.

When rupture of a pyosalpinx does occur it is nearly always preceded by severe attacks of abdominal pain and is, of course, followed by general peritonitis. The occurrence of such attacks of pain in a case where we know a pyosalpinx to exist ought to warn us, and this, with a deterioration in the general condition of the patient and a rising leucocytosis, should lead us to explore from below and evacuate the pus.

The mortality from cases of ruptured pyosalpinx is high, and the only hope for the patient is early operation. In the 91 cases collected by Brickner, 54 died and 35 recovered (2 are unaccounted for). The 35 patients who recovered were all operated on. Of 28 cases operated on within 24 hours of rupture only 3 died. In such cases, in addition to opening and draining the abdomen, the tube ought to be removed.

We have lately had in the Toronto General Hospital a case of generalized peritonitis, resulting from a ruptured tubo-ovarian abscess, somewhat similar to some of those already recorded.

The patient was admitted on the afternoon of Wednesday, Nov. 20th, with all the symptoms and signs of a general peritonitis, and on examination a large semi-fluctuating mass was felt on the left side of the pelvis. There was a history of moderate pelvic pain and fever extending over three weeks, followed for two days before admission by more severe spasms of pain and culminating the night previous to admission in a very severe attack accompanied by symptoms of collapse. When seen her pulse was 130 and temperature 103° F. The abdomen was distended and hard. On opening the abdomen there was a quantity of turbid fluid present mixed with pus and a general peritoneal inflammation. The source of the trouble was a large left-sided tubo-ovarian abscess adherent to intestines, omentum and pelvic

wall and leaking pus from a rupture on its lower and posterior aspect. After mopping away as much of the pus as possible we proceeded to remove the mass. This was effected by beginning on the healthy side of the uterus, cutting the latter across at the level of the isthmus and shelling the tubo-ovarian mass outwards towards the side of the pelvis. Drainage was established through the lower part of the wound and through the posterior vaginal fornix and the rest of the wound closed without washing out. The patient was very ill for two or three days after the operation, but has now made a perfect recovery.

The removal of the uterus in those cases where the tube is densely adherent renders the operation easier and, I believe, improves the chances of recovery. When only the tube is removed re-infection may take place from the stump.

Another case may serve to illustrate the risk of too early operation in cases of gonococcal pyosalpinx. A woman, aged 25, was admitted to the Toronto General Hospital with a definite diagnosis of gonorrhea and with the symptoms and signs of double pyosalpinx. She had an irregular temperature rising to 102° and 103° F. and rapid pulse. After several weeks in hospital, during which time she had vaccine treatment the temperature subsided. The tubal swellings appeared, however, to be undiminished in size and fluctuation was distinct. She was becoming more anemic and her condition generally deteriorating. Owing to these facts and to the inaccessibility of the tubal swellings from below, we opened the abdomen hoping to be able to remove the whole source of trouble. This was found to be impossible owing to the density of the adhesions, so drainage was established through the wound and through the vagina. For 48 hours after operation she gave us great anxiety owing to threatening of general peritonitis with rigidity, distension of abdomen and excessive vomiting. She ultimately made a slow recovery, although a sinus still persists seven weeks after operation. In this case we probably operated too soon, and it would have been better in the first instance to have drained from below. As mentioned above we did not do this owing to the apparently high position of the tubal swellings.

In dealing with cases where a more or less localized peritoneal infection has resulted from leakage of pus through the abdominal ostium without the formation of a pyosalpinx and the or-

ganism is the gonococcus it is not always necessary to remove the tube. The opening and draining of the abdomen may be all that is required. Such tubes may remain functional, and as the condition is often bilateral and occurs in young women, the conservation of the tubes is most important from the point of view of future child-bearing.

It is also well to remember that in many cases of peritonitis, the tubes are inflamed, although they are not the original source of infection. Organisms in the peritoneal cavity are very apt to find their way through the abdominal ostium and set up a salpingitis. In such cases careful search must be made for the primary lesion.

In addition to tubal affections there are other lesions of the female pelvic organs which are occasionally the cause of a generalized peritonitis. These can only be mentioned briefly.

Perforation of the uterus by the uterine sound dilator or curette in the course of the operation of curettage is not an infrequent accident. If, however, the operation has been carried out with due aseptic precautions peritonitis seldom follows. If, therefore, such an accident occur, no treatment of an active kind should be carried out. If the operation be stopped and the patient kept at rest she will, in most cases, make a good recovery. Should, however, symptoms of peritonitis supervene the abdomen must be opened.

Torsion of the pedicle of a subserous fibroid of the uterus or the rare cases of torsion of the whole uterus may be followed by a diffuse peritonitis usually due to the bacillus coli. Here again the watchful surgeon will step in before such a calamity occurs.

Necrobiosis or red degeneration of uterine fibroids, a condition which may arise without apparent cause, but which is often associated with pregnancy, abortion or the puerperium may also be followed by general peritonitis. The signs and symptoms of this condition are so definite that warning is given and operation should be undertaken before the process has advanced to such an extent as to lead to secondary involvement of the general peritoneum.

Torsion of the pedicle or suppuration of an ovarian tumor may have general peritonitis as a sequel, but here again the peritoneal inflammation is a terminal phenomenon and ought not to be allowed to occur.

The treatment of these cases differs in no way from that suitable for peritonitis due to other causes and should follow the general principle of removal of the source of infection and the establishment of drainage. Regarding the latter point we shall have something to say later.

Puerperal Peritonitis.—In the great majority of cases of peritonitis occurring in obstetric practice the infection is part of a general sepsis. A study of the more recent literature and work on this subject, while it leaves us still in doubt regarding many points, seems to make it clear that many of the severe types of puerperal sepsis, including peritonitis, are the result of what has been termed "meddlesome midwifery."

It used to be taught that the parturient canal was free from pathogenic organisms, provided no examination had been made before or during labor, and it was believed that in most cases of puerperal sepsis the organisms had been introduced from without. Through the work of many investigators this belief in the absence of pathogenic organisms from the genital canal has been shattered. We now know that organisms, many of them virulent, or potentially virulent, are sometimes present previous to any internal examination. Winter[3], for instance, found in an investigation of 215 cases that hemolytic streptococci were present in the genital canals of 10 patients previous to examination. In a larger series of 510 patients who exhibited no sign of sepsis he found hemolytic streptococci in 21. These results confirm the findings of other investigators, such as Zangemeister and Ahlfeld. Rosowsky[4] has recently recorded the bacteriological findings in the genital tract of 80 women. He detected anaerobic organisms in 25, streptococci in 21, staphylococci and streptococci in four. Under ordinary circumstances such organisms may be only saprophytic, but after abortion or labor they may become virulent. Zangemeister[5] lays emphasis on the fact that in order to do damage these organisms, whether already present in the genital canal or introduced from without, require to be inoculated. The mere presence of a raw surface may not be sufficient, they must actually be planted in it. A knowledge of these facts regarding endogenous infection has led to a considerable modification in the treatment of minor accidents of labor and the milder and more localized forms of puerperal sepsis. A still wider knowledge of them will lead to a great diminution in the number of cases of

serious puerperal sepsis, including peritonitis. If it were possible to have a bacteriological examination of the vaginal content of every woman previous to labor, we would arrive at an ideal condition. We would then know in which cases it was safe and in which it was dangerous to carry out operative measures. But even without this exact knowledge the fact that potentially virulent organisms may be present should make us extremely cautious in carrying out any but the most necessary interference. Take, for instance, the retention *in utero* of small pieces of placenta or membrane. In the absence of hemorrhage it is safer to leave these in the uterus than to run the risk of inoculating raw surfaces with pathogenic germs, and this we may do however perfect our aseptic technique. Then again in mild degrees of sepsis any active treatment such as rough manipulations in the giving of an intra-uterine douche or in curettage of the uterus may result in a fresh inoculation and a rapidly spreading sepsis. In such cases rest, the Fowler position and the administration of a uterine stimulant, such as ergot, may be all that is required.

We have put these facts in the forefront because in the present state of our knowledge our great hope lies in prevention. The mortality of puerperal peritonitis is very high. This is due to the fact that it is often only a part of a general sepsis, and that the diagnosis is difficult, so that operation is not undertaken early. But even in cases where operative interference is carried out at an early stage the results are not so good as those obtained in abdominal lesions, such as perforated gastric ulcer or appendicitis. This is accounted for by the low state to which the patient is brought by the septic poisoning and the impossibility, in many cases, of removing the source of infection. De Lee[6] states that out of over twenty cases on which he has operated, only one has recovered.

When occurring as part of a general sepsis the typical signs of peritonitis may be absent. Chief reliance for diagnosis must be placed on the increased rapidity of the pulse, abdominal distension and vomiting. The presence of free fluid is seldom detected, but in cases of doubt exploration with a needle may help. Those cases usually terminate fatally in a few days. Some are opposed altogether to operation, especially if the organism is a streptococcus and it is present in the blood.

In cases where the peritoneal infection occurs later in the

puerperium, and is at first localized to the pelvis, the prognosis is better. In these cases the gonococcus and bacillus coli are more often present and infection takes place through the end of the tube or by lymphatic extension through the wall. Those cases must be carefully watched, and if the inflammation shows signs of extension the abdomen must be opened without delay. If, on the other hand, the general condition of the patient is good and there is no evidence of extension to the upper abdomen, it is better to wait for localization to occur and then attack the condition from the vaginal fornix. No definite rules can be laid down which will apply to all cases. Each must be judged on its merits. In one it may be best to make an incision through the posterior fornix at an early stage and so diminish the risk of extension to the upper abdomen. Several writers have reported good results from this procedure. When in doubt it is better to err on the side of early rather than of late interference. It is in such cases that a man's clinical acumen tells.

Treatment of General Peritonitis.—Surgeons differ in their procedure in operating on cases of general peritonitis. All are, however, agreed that if possible the source of infection ought to be removed. The incision should not be a large one and should be made over the site of the lesion. In pelvic cases a median incision below the umbilicus is the one generally employed. There ought to be as little handling of the viscera as possible. This is specially important in puerperal cases owing to the degree of collapse so often present. Some make only one incision, others such as Bumm make several counter openings. Fluid should be evacuated with as little swabbing as possible.

Most operators now dispense altogether with washing out. In peritonitis, due to a pelvic lesion, the inflammation at the time of operation may not have extended to the upper reaches of the cavity. To flush out the abdomen in such a case is to run the risk of infecting fresh surfaces. In determining this question of washing out or not, the procedure advocated by Wilkie might be more generally followed. He advises that a rapid microscopic examination of the exudate be made. If most of the organisms are intra-cellular, no washing out is required, but if many are extra-cellular and the cells are degenerated, flushing with sterile water or saline will do good.

Drainage should be established through the lower end of the

wound. A large rubber tube or two or three placed side by side have given us the best results. One of the tubes may be split in a spiral manner and a strand of gauze placed inside. As regards drainage through the vaginal roof it is good where there has been a collection of pus in the pouch of Douglas or some definite pelvic lesion, but for drainage of the general peritoneal cavity we think its importance has been exaggerated. We have found that in cases where drainage through the abdominal wound and through the posterior vaginal fornix has been employed, the amount of discharge from the latter is less and ceases sooner than from the former. One would naturally think that gravity would make vaginal drainage the more effective of the two. But the tube in these cases seems to be compressed and blocked by the pressure of the viscera and efficiency is also interfered with by the formation of adhesions. For these reasons we think it best to rely on abdominal drainage alone, except in cases where, as stated before, there is a definite focus of infection in the pouch of Douglas or its neighborhood. If vaginal drainage is employed the tube may be removed in a few days, and in most cases it will not be necessary to reinsert it. It is not wise to distress a patient by trying to force a tube through a rapidly closing vaginal opening if abdominal drainage is efficient.

If at the end of the operation the patient is collapsed, saline should be given intravenously. A much quicker reaction is obtained by this means than by the interstitial or rectal methods. In the after-treatment repeated saline rectal injections we have found more easily managed than continuous irrigation.

There are many aspects of this subject which, in the time at my disposal, I have been unable even to mention, but the speakers who are to follow will doubtless deal with some of those.

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GENERAL SEPTIC PERITONITIS*

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Peritonitis may be caused by many different conditions, and any of the ordinary pyogenic organisms may be responsible. Their entrance through the blood stream is rarely in sufficient quantity to produce diffuse inflammation, but it is generally due to some gross surgical lesion. The severity of the inflammation may depend on the virulence of the poison introduced, the resisting power of the patient or upon the part of the peritoneum chiefly or primarily affected. The pelvis absorbs poison slowly, while the upper peritoneum, near the diaphragm, absorbs rapidly.

Clinically peritonitis may be divided into two classes: 1. Acute. 2. Chronic. The acute may be either localized or diffuse. The chronic either simple or tuberculous. It is the acute, diffuse variety that is chiefly under discussion to-night. It may originate from any part of the gastro-intestinal tract from the stomach to the rectum—the most frequent part being the appendix. It occurs in all its awful fury in any case where an irritating fluid is suddenly thrown into the general peritoneal cavity. When we remember that the extent of the peritoneal surface is almost equal to that of the skin, and that its absorbing power is very great, we can understand that a large quantity of poisonous fluid suddenly poured into it, is one of the most overwhelming calamities that can befall a human being. Bishop says that the character of pain in these cases is of great value in diagnosis. An intense, sudden, tearing pain, often severe enough to produce collapse, and usually associated with sharp vomiting, is common to a comparatively small class of cases. These are:

1. Ruptured ectopic.
2. Ruptured pyosalpinx.
3. Ruptured appendiceal abscess.
4. Ruptured gastric ulcer.

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5. Ruptured duodenal ulcer.
6. Ruptured gall-bladder.

Just observe that these are all *ruptures* of important organs, permitting the escape of irritating fluids into a healthy peritoneal cavity. The peritoneal cavity may be filled with ascitic fluid, which is *non-irritating*, and no such symptoms are produced. And again in tuberculous peritonitis the cavity may contain even pus and still no such awful symptoms are the result because here the peritoneal cavity is *unhealthy*. While a ruptured ectopic gestation will give the sudden, severe pain mentioned before, the blood is not septic—it is really an example of *aseptic* peritonitis—as is also a sponge or ligature in the peritoneal cavity.

The symptoms of peritonitis are well known. They generally commence with abdominal pain combined with rigidity and this is important. Pain without rigidity does not indicate peritonitis. In cases of intestinal obstruction from non-inflammatory adhesive bands—you have pain, but not rigidity. In gastric or duodenal ulcer, you may have pain but no rigidity, until the peritoneal coat becomes involved. Catarrhal appendicitis will cause pain but no rigidity unless there be also some peri-appendicitis affecting the peritoneum. From this I think we may say with confidence that we do not get rigidity until the peritoneum becomes involved. Many of us do not care to operate on a case of appendicitis in the third or fourth day of the attack because we know that generally the poison has gotten well beyond the appendix and we may have more or less of a general peritonitis. If, however, on examining our patient at this time we find the left side of the abdomen not rigid and the right side rigid with no palpable mass we may conclude that the inflammation is probably still confined to the region of the appendix and we may operate with safety.

This rigidity of the abdominal muscles, however, is only temporary. It passes off later on. When distension begins, showing septic paresis of the intestine, rigidity lessens or passes away.

Subjective pain may be misleading as the patient may refer it to the region of the umbilicus, but, on palpation, if we find one point more tender than any other, we may reasonably conclude that we have found the origin of the trouble.

In addition to pain and rigidity we have spasm and tender-

ness, vomiting or an inclination to vomit. There will also be alterations in pulse and temperature.

A pulse increasing in frequency and decreasing in volume is significant, and, as a grave prognostic sign, is reliable. A pulse rate persisting above one hundred and twenty, regardless of temperature, is a serious sign.

We will not follow the symptoms out in those awful fatal cases, where the countenance becomes anxious, the face pinched and drawn, the eyes sunken, the tongue dry and coated, the abdomen greatly distended, the knees drawn up, the dusky, clammy, skin, etc., etc. We are all agreed in regard to the cause, symptoms and diagnosis, there is no discussion here, so we will pass on to the treatment, which, according to literature and our experience, is not well settled and may be said to be even now passing through a period of transition.

Before passing on to the all important part of our subject, general or diffuse, septic peritonitis—we may briefly discuss the localized form. Let us take for example an acute appendicitis, 24 hours old, pain and rigidity in the right side, over McBurney's point, while the left side remains soft and even painless. In such a case, I think, we are all agreed that the appendix should be removed at once, while the disease is still confined to that organ; by doing so we have gotten rid of the entire trouble and perhaps saved our patient from a later perforation with a dangerous diffuse septic peritonitis. Take another example of the localized form, salpingitis, of one or more days standing. Shall we remove the tube at once? Certainly *not*. I will quote from a paper which I wrote on "Operative Technique in Abdominal and Pelvic Surgery" and which was published in the *Canada Lancet* of January, 1909.

"Why not operate in acute salpingitis? Why operate in acute appendicitis? These are questions I have occasionally put to final students in the council examinations. They are generally unable to give a reason. The way I have reasoned it out for myself is that in salpingitis we are dealing with an organ that normally opens directly in to the peritoneal cavity, and before the disease has had time to close the fimbriated end of the tube the pelvic peritoneum has become to some degree infected. Surgical interference at this time is likely to spread the infection by breaking down the protection that nature has commenced to

build around the poisoned point. Also, experience has taught us that these cases, while acute, frequently succumb, if radical surgical measures are employed. And we also know that the tendency of such cases is to either subside, or to go on to pus formation, which becomes well walled off and may later on be opened through the vagina, and if cure does not follow, an abdominal operation may be done still later, when the pus, if any remain, has become less virulent. On the other hand, in acute appendicitis, if we operate early, while the poison is still confined to the appendix, we are operating on a closed tube, and, by removing it, we have gotten rid of the focus of infection and the entire trouble. And again, experience has taught us here that appendicitis is one of the most treacherous of diseases. The appendix is likely to perforate or become gangrenous and destroy our patient's life with remarkable rapidity. In any given case, with our present knowledge, we are quite unable to predict with any degree of certainty the course the disease will take."

If we are called to see a case of appendicitis ten or twelve days old, of this localized variety, and on passing our hand over the abdomen we find a large prominent mass in the region of the appendix, and the other parts of the abdomen comparatively soft, we know that we have to deal with a large abscess. What is our treatment? We merely open the abscess where its wall has united to the abdominal wall, pass in a drainage tube, and stop. If the appendix comes into view at once it should be tied off. We are not justified in this case in hunting for the appendix, lest, in doing so, we disturb the abscess wall, break down nature's inflammatory protection, and cause pus to escape into the general peritoneal cavity with well-known results. Even though the appendix be perforated, it can only leak into the abscess cavity and run out through the tube you have inserted. The appendix may be removed at a later and safer date, if necessary.

It takes just as much judgment and fortitude to stop operating as it does to go ahead. It is better to do two safe operations at long intervals than to have one unnecessarily dangerous one, and perhaps a funeral. Many of these abscess cases never require a second operation, the appendix having been destroyed by the suppurative process.

We now come to the battle-ground of this whole subject: the treatment of general septic peritonitis. There are very few,

if any, more formidable foes with which the surgeon is brought face to face.

The treatment of this condition is surgical. There is no medical treatmgent, except in so far as it may assist and supplement the surgical. Isolated cases recover under medical treatment, and they may do so under no treatment.

By operation we seek to first remove the products of inflammation or escaped contents of a ruptured viscus, second to relieve intra-abdominal tension and thus diminish absorption, third to remove or close the focus of infection.

If the cause be appendicitis, then the appendix must be considered a perforated organ, whether macroscopic perforation be demonstrated or not. It will not suffice to drain only—the appendix must be removed. Where at all possible, our patient should be removed to a hospital. The disadvantages of moving a patient in the semi-sitting position are much less than the disadvantages of operating in a private home.

Where the cause of the trouble is known, the incision should be made over the affected viscus. If the cause be unknown, we should make a liberal median incision between the umbilicus and pubes. During every step of the operation we should keep a sharp lookout for any sign that will direct to the probable cause. On opening the peritoneum proper, note if a puff of gas escapes, which would indicate the rupture of some air-containing viscus. If a gastric ulcer has perforated, the escaping fluid will contain flakes of lymph or particles of food. The fluid may be bile-stained in perforated duodenal ulcers. If the gas and fluid have a very offensive odor, we may exclude stomach and duodenal trouble and suspect the appendix as being the offending organ.

Now introduce the fingers, or perhaps the hand, into the abdomen with the greatest possible gentleness. No rough manipulations should be used. Every movement should be made with gentle quickness and definite purpose. Let us first find the cecum and examine the appendix. If it be innocent and the cecum collapsed, we know the large intestine is not the cause of the trouble, so we must search higher in the gastro-intestinal tract. Should the cecum be distended, we next examine the sigmoid, and if it is also distended and no obstruction between it and the anus, we know we have a case of intestinal paresis from general septic poisoning. But we have not found the

source of the trouble. By gently passing the hand towards the upper abdomen we will probably find one spot where there is a thick, localized deposit of lymph, and on disturbing this an extra amount of fluid is liberated. This is a reliable guide to the initial lesion.

We will suppose that by our hurried and systematic examination we have found a gastric perforation. We at once proceed to close the opening (without excising it) in the orthodox manner. If we are not perfectly satisfied with the security of our closure, and at times the tissue is very friable, we should place an omental graft over it as an additional precaution; or we may cover it with a strip of gauze, leaving one end out of the incision. The sponge water in this work should be normal saline, and small, wet sponges, with holders, should gently mop out the excess of fluid and escaped stomach contents. A second incision above the pubes (if the first one has been over the stomach region) and the fingers passed into the pelvis will generally be rewarded by a surprising gush of fluid. A rubber tube is placed in the pelvis and the wound closed around. No flushing of the abdomen is necessary or advisable. The upper wound may be closed completely if no gauze has been packed around the stomach sutures. The fluid is sucked out of the drainage tube, frequently with glass piston syringe and catheter attached. In a day or two, drainage ceases. Any drainage tube should be withdrawn an inch in twelve or twenty-four hours lest the end should cause a pressure slough by accidentally resting on a part of the intestine. After operation the patient is put in the Fowler position.

During the last twelve months, I have seen five patients with perforation of the stomach and resulting peritonitis. Four I operated on. Three recovered and one died. My assistant, Dr. R. W. Wesley, operated on one during my absence from town. His case recovered. One of these cases, a professional gentleman, I saw in consultation at midnight on a cold winter night, seven miles from town. The question of operating at his residence—a good country home—was discussed. We decided to bring him to the hospital. After our diagnosis was made, and our line of procedure decided, our patient was given half a grain of morphia, hypodermically, to relieve his awful pain. He was then brought seven miles in a semi-sitting position in a taxicab, with comparative comfort. Operation was performed at once

very much on the lines described above. The patient made a good recovery. I mention this to emphasize the fact, which I consider very important, that to remove these patients very carefully in the semi-sitting position is not serious; in fact it is much safer than to undertake to operate even in the homes of the well-to-do.

There are cases of general septic peritonitis where we have symptoms of *indefinite* intestinal obstruction due to paralysis of the bowel. You may even have visible coils appearing through the greatly distended abdomen. These are cases of some days' standing. On opening the abdomen in such cases, the over-distended, dark-colored bowels protrude through the incision. Here it may be necessary to empty the bowel of its contents before we can make a successful search for the source of the trouble. In making your opening in this congested intestine, the incision should be made opposite the mesentery and across the bowel, and thus interfere as little as possible with the already badly damaged blood-vessels.

There are a few forms of general septic peritonitis in which it is not advisable to operate, and those are the cases where we cannot remove the septic focus. As examples, we may mention: cases resulting from poison introduced at an operation, cases resulting from gonorrheal infection or from some cases of pneumonia.

It is encouraging to note that the general practitioner of to-day rarely covers up the symptoms of these acute abdominal cases by the use of hypodermics of morphia. Morphia should never be used until the diagnosis is made and the line of procedure determined.

We now sum up the treatment for the great majority of cases of general septic peritonitis as follows:—

1. Operate as early as possible in the attack. Every hour of delay increases the mortality.

2. Remove the focus of infection in the quickest and most simple manner, and with as little trauma as possible.

3. Wipe out with moist, small sponges, on holders, the *gross* inflammatory products and escaped viscus contents that have accumulated in the pelvis.

4. Place a large rubber drainage tube in the pelvis, with a strip of plain sterile gauze down beside it. This tube is kept

empty by a glass piston syringe with rubber catheter attached.

5. Place the patient in the Fowler position as soon as diagnosis is made, and again for two or three days after the operation.

6. Give large quantities of normal saline by the bowel, either continuously or intermittently, after the operation. It is said to reverse the current in the lymphatics of the peritoneum, making the surface of that membrane a secreting instead of an absorbing agent.

7. A single dose of morphia may, if necessary, be given after operation. The bowels are moved in twelve or twenty-four hours by laxative enemata. My favorite formula for ten or twelve years being:—

Turpentine	2 oz.
Glycerine	2 oz.
Mag. Sulph. (sat. solution)	2 oz.
Aqua	ad 12 oz.

Sig.: Warm, and give high.

550 Palmerston Boulevard, Jan. 3rd, 1913.

Selected Articles

COMBINATIONS OF DRUGS AS PHARMACEUTICAL UNITS

In the olden times the remedies of Nature, usually discovered accidentally, were generally employed in their crude condition. Owing to the advance of analytical methods, it is now however possible to study and isolate the therapeutically active principles. Rational pharmacology thus became possible, and the action of the isolated ingredients of drugs was soon studied. A desire for chemically uniform bodies soon became pregnant, since a careful study of pharmacological properties was not otherwise possible. The clinician was more easily satisfied, since he is more interested in successful cures than in theoretical discussions on the physiological action of drugs. Even to-day many of the galenical preparations (extracts, tinctures, decoctions, infusions, etc.) owe their existence solely to clinical experience, and the pharmacologist has been able to replace these by uniform chemical bodies only to a limited extent. Thus, as expectorant, an infusion of ipecac is still more frequently prescribed than a solution of apomorphine.

The investigation of chemically uniform bodies was soon followed by a study of the effects of mixtures of chemical principles. In this respect the experiments conducted on the action of digitalis are of the greatest importance. New facts were discovered and a new foundation was laid for the clinical application of this drug. Pharmacological studies have shown that all the glucosides of digitalis together possess a higher therapeutic valency than each separate one. If given by mouth, the total glucosides will have a more intense and permanent effect. The total glucosides of digitalis are at present looked upon by the pharmacologist as if they represented a single uniform body. Quantitative estimations are made and the methods of testing the potency on the frog heart are of greater importance and interest than the isolation and the quantitative analysis of digitoxin.

We are at present in the position to place the pharmacological unit side by side with the chemically uniform body. This new point of view meets all the requirements and interests of the medical profession. In this direction, the investigations of Buergi and his pupils on the combination of narcotics deserves special attention. With a large number of substances, there is solely an addition of the effects of the components of the mixture with others, the combination shows greater potency than would be expected. If two narcotics are given which affect the body in the same way, there will be a simple addition of the effects of both. If, on the other hand, two narcotics with different physiological action be administered, an increase in the potency to almost twice of what would be expected is the result. Fuehner proved the correctness of Buergi's views. He believes, however, that the increased potency finds its explanation in an increased lipoid solubility of the alkaloids through the lipoid soluble hypnotics. It is certain that conditions are created in the brain by this combination of hypnotics which give rise to increased potency. With bromural, we know that its action depends upon the isopropyl radical, yet isovalerylurea is therapeutically inactive. The bromine here has also become very lipoid soluble, and is probably also responsible to a great extent for the therapeutic effect obtained with this drug, solely through its union with a lipoid soluble group. New problems are thus opened up for the pharmacologist who, unlike the chemist, deals with groups of atoms and not the atoms themselves. The effect of bromine upon the rest of the body is explained chiefly by a replacement of salt, and if this effect is desired, as in epilepsy, it makes little difference what compound of bromine is employed. In the treatment of nervous conditions, the amount of bromine introduced is of less importance than the peculiar union of bromine with other elements in the molecule.

Buergi could also obtain an increased potency by combining certain diuretics. He could also prove the narcotic effect of the antipyretics in the animal experiment by giving at the same time a narcotic in a dose which, by itself, did not cause sleep. In practice, it has been known for some time that the antipyretics are hypnotic.

The examination of isolated substances often gives a very inadequate idea of the effect of combinations. Thus, Seiler, of

Berne, has published some investigations upon the effect of arsenic in chlorosis and conditions of anemia. He could prove that arsenic alone is without effect, but that excellent results can be obtained if combined with iron. One can only conclude that the combination of arsenic with iron represents a pharmacological unit whose action cannot be explained by the effect of its components.

Formerly, the only hypnotics of importance were bodies of definite chemical composition. In the future, combinations of narcotics will become more popular, and will be regarded as new pharmacological units, whose administration presents many clinical advantages.

In certain cases the second drug will reduce the toxicity of the first, if its action is antagonistic toward the toxic effect of the drug with which it is combined. Thus, Mayor, in the animal experiment, reduced the toxicity of codeine considerably by combining it with chloral hydrate, and Stursberg by using diethylbarbituric acid.

In Stursberg's experiments, a dose of 0.035 gr. codeine intravenously, killed the animals at once with convulsions. If the same dose of the diethylbarbituric acid salt of codeine was given there was no overexcitability, and the animals remained quiet and stuporous. The drug proved fatal only when 0.06 gr. per kilogram was given. We here have the important phenomenon that two potent drugs, when given together, will show a marked therapeutic effect, yet will neutralize each other as far as the more toxic effect is concerned.

Bachem could show that a combination of codeine with diethylbarbituric acid will have a very favorable effect upon the blood-pressure and the temperature. Small doses of the codeine salt of diethylbarbituric acid, such as are employed therapeutically, will have either no effect upon blood-pressure, or else will increase the pressure so that a fall of pressure due to the diethylbarbituric acid will be counteracted. The same is true of the temperature. 0.2 gr. per kilo. of sodium diethylbarbituric given by mouth to rabbits still reduces the temperature on the average 2.3. With the same doses of codeonal, the fall in temperature is only 0.7. It may therefore be stated that, with the usual small doses of codeonal, there is practically no fall of temperature.

Most of the above remarks refer to animal experiments. The

clinical use of the drugs in question has however confirmed the observations in every way. Thus, by giving codeonal, it is possible to reduce the dose of diethylbarbiturie acid considerably. The drop of temperature with codeonal can hardly be detected. A disturbance of the circulatory organs has never been seen.

It may be stated, in conclusion, that modern pharmacotherapy has passed the analytical era and is entering the synthetic stage.

(1) Buergi, Bern—"Die Wirkung der Narkotika Kombinationen." Deutsch. med. Woch., 1911, No. 1-2.

(2) Fuehner—Pharmkol. Inst. d. Univ. Freiburg 1. B/: "Pharmakologische Untersuchungen ueber die Mischnarkose." Muench. med. Woch., 1911. No. 4.

(3) Takeda, Kyoto: "Untersuchungen ueber das Bromural in Bezug auf seine Zerteilung und Zersetzung im tierischen Organismus." Arch. inter. d. pharmacody. et de therap. 1911. Vol. 21, p. 204.

(4) Mayor, Geneva: Experimentelle Beitraege zur Kenntniss einiger Morphin derivate." (Kodein, Dionin, Heroin, Peronin.) Therap. Monatshefte, 1903, No. 5,)

(5) Stursberg, Bonn: Bemerkungen ueber Codeonal und Codein. Diethylbarbiturie. Muench Med. Woch., 1912, No. 18.

(6) Bachem, Bonn: Codeonal, ein neues Narkoticum und Hypnotikum. Berl. klin. Woch., 1912, No. 6

Society Proceedings

THE ACADEMY OF MEDICINE, TORONTO

THE Stated Meeting of the Academy of Medicine for January took place on the evening of Tuesday, January 7th, with the Vice-President, Dr. H. J. Hamilton, in the chair. The meeting was perhaps one of the best that has been held for some time past, the attendance being splendid.

After some formal business was transacted, President Dr. R. A. Reeve had a very pleasant duty to perform in presenting to the Academy of Medicine, on behalf of Sir Hector Cameron, of Glasgow, a splendid photogravure of the late Lord Lister. The gift from Sir Hector is certainly highly appreciated, and the photo of the late Lord Lister, taken in the mid-day of his life, will hereafter adorn the walls of the Academy.

The evening was then devoted to a Symposium on Septic Peritonitis. Four splendid papers on this subject were read by Dr. Herbert A. Bruce, Dr. B. P. Watson (Professor of Gynecology and Obstetrics, University of Toronto), Dr. S. M. Hay and Dr. John Ferguson. We take pleasure in presenting our readers with these papers in this issue, and it will be agreed that each one of them is of exceptional merit. Though it was late when Dr. Ferguson had completed his address, there was a free discussion, taken part in by a number of the Fellows present. Dr. H. J. Hamilton is to be congratulated upon his occupancy of the Chair that evening.

The meeting closed with refreshments.

The Section of Pediatrics did not meet in January on account of the holiday season; but will be held as usual in the Hospital for Sick Children on February 6th.

The Section of Medicine met as usual on Tuesday, January 14th, with Dr. Harry B. Anderson in the chair. The attendance was most encouraging, a splendid list of papers and cases being presented. The following was the evening's programme:

1. Cases Illustrating the Treatment of Rheumatoid Arthritis—Dr. G. W. Ross.

2. Report of a Case of Lymphatic Leukemia—Paul L. Scott.

3. A Case of Sub-acute Combined Degeneration of the Cord—Julian Loudon.

4. A Case of Disseminated Sclerosis—Allan Adams.

5. A Case of Disseminated Sclerosis—H. S. Hutchison.

6. The Value of the X-Rays in the Diagnosis of Gastric Affections—F. W. Rolph (with lantern slides).

7. Two Cases of Thoracic Aneurism—J. H. Elliott.

8. Report of a Case of Gastric and Duodenal Ulceration, with Complications—S. Moore.

The Section of Surgery, under Dr. Silverthorn, convened on January 21st, with the following programme:

1. Fractured Pelvis, with Ruptured Urethra—E. Stanley Ryerson.

2. Recent Experiences with Fractures—Wallace Scott.

3. Recent Experiences in Operation for Ectopic Gestation—N. A. Powell.

4. A Case of Dislocation of the Astragalus—H. A. Beatty.

The Section of State Medicine, with Dr. Addison in the chair, met on January 23rd, when the following papers were read:

1. The Federal Government and the Tuberculosis Problem—G. D. Porter. Discussion, C. J. C. O. Hastings.

2. The Control of Tuberculosis from the Provincial Standpoint—John W. S. McCullough. Discussion, J. H. Elliott.

3. The Relationship of the Department of Health and Voluntary Agencies in the Control of Tuberculosis—Miss Dyke (by invitation). Discussion, Harold C. Parsons and Helen MacMurchy.

The Stated Meeting for February takes place on Tuesday, the 4th inst., at the Academy Building, when an address will be given by Dr. Ramon Guiteras, of New York City. The subject of his address will be "Remarks on Kidney Operations."

Obituary

DEATH OF DR. W. J. WAGNER

A highly respected medical practitioner passed away on Jan. 10th, in the person of Dr. W. J. Wagner, of 19 Gerrard Street East. Though Dr. Wagner had been ailing for some months, his death was in the end unexpected. The cause was a complication of arterio-sclerosis and nephritis.

Dr. Wagner was a son of the late J. P. Wagner, a well-known contractor in Toronto many years ago, and the builder of the Rossin House. He was born in Rochester, New York, in 1849, having lived nearly all his life in Toronto. He was educated at Upper Canada College and graduated in medicine from the Toronto School of Medicine in 1870. After practising for about a year in Rochester he came to Toronto, where he had been a general practitioner until his death. In 1874 he married Caroline Boeckh, daughter of the late Charles Boeckh, of Toronto.

He is survived by his widow and five children. The children are:—Dr. Chas. J. Wagner, Mr. W. E. Wagner, Mr. H. L. Wagner, Mr. Norman Wagner and Miss Henrietta Wagner, all of this city.

News of the Month

MEDICAL RESEARCH AT THE UNIVERSITY OF TORONTO

"Giving the University of Toronto an endowment fund of over $25,000 annually for research work in the medical department will create one of the greatest factors for usefulness of the institution," said President Falconer recently, when commenting upon an announcement that some of Toronto's wealthy men had subscribed to an Endowment Fund for Medical Research work.

"Working in conjunction with the Toronto General Hospital, where will be conducted a clinic that will standardize with those of highest repute in the world, the research work that will now be carried on in the University will provide medical students with exceptional educational advantages.

"Of the five physicians who have been engaged for this research work, Dr. Caulfield will specialize on tuberculosis, and Drs. Fletcher, McPhedran, Armour and Imrie will undertake general work.

"What is also of much importance to Canada is the assistance the research work will give the clinic in the Toronto General Hospital. The advantage to Canada will best be understood by stating that a clinic of exceptional merit was established in New York City some years ago. It attracted physicians and surgeons from all parts of the country.

"They received a training which made them equally as skilful as their associates on the clinic, and when they returned to their practices in the several cities and towns, their fame so spread that they had for patients those who otherwise would have gone to New York for treatment. In this way the United States has been given, and is being given, a well-distributed supply of most efficient physicians and surgeons."

Among those names mentioned as donors of the $25,000 annuity to Toronto University for use in medical research are those of several well-known Toronto men. Sir Henry Pellatt is reported as having headed the list, while in company

with Mr. J. C. Eaton in this generous bequest were Sir William Mackenzie, Mr. Noel Marshall, and others.

The work will be carried on in the various laboratories of the University, and it is expected that the money available will be sufficient to permit three or four medical men to occupy their entire time in the work of research.

One of the men chosen was Dr. Imrie, a graduate of the Western University, of London, Canada. Dr. Caulfield, formerly of the Muskoka Sanitarium, has been selected for the investigations into tuberculosis, and Drs. McPhedran, Jr., and Armour will temporarily fill the posts of senior research assistants during the training of other men, which will occupy some years.

AN HISTORICAL MEDICAL EXHIBITION IN LONDON

For the first time in 21 years the International Medical Congress will meet in London in the summer of 1913, and, in this connection, an exhibition of rare and curious objects relating to Medicine, Chemistry, Pharmacy and the allied sciences is being organized by Mr. Henry S. Wellcome. The response to the appeal for loans has been most successful, with the result that probably one of the most interesting collections of historical medical objects ever gathered together will be on exhibition during the meeting of the Congress.

Among other interesting sections is one including the medical deities of savage, barbaric and other primitive peoples. Through the kindness of friends, specimens of these have been forwarded from all parts of the globe, but there are still many gaps to be filled, and those who possess such objects, and would be willing to loan them, should communicate with the Secretary of the Exhibition, whose address is given below.

Amulets, talismans and charms connected with the art of healing will also form another prominent feature, and any loans of this description would be welcomed.

In the section of surgery, an endeavor will be made to trace the evolution and development of the chief instruments in use at the present day, and it is desired to accumulate specimens of instruments used in every part of the world, by both savage and civilized peoples.

In pharmacy and in botany special exhibits are projected,

which will include models of ancient pharmacies, laboratories and curious relics of the practice of alchemy in early times. Specimens of ancient and unusual materia medica from all parts of the world will also be exhibited.

A complete illustrated syllabus will be forwarded to anyone interested on application to the Secretary, 54A, Wigmore Street, London, W. England.

HONOR FOR TORONTO MAN

A VALUABLE medical scholarship, the Beit Memorial, has recently been awarded by the London trustees to a Toronto man, Dr. Archibald Bruce Macallum, son of Prof. A. B. Macallum of Toronto University. The scholarship is valued at about $1,250, and holds for three years. Dr. Macallum secured his Toronto B.A. in 1907, and his M.D. in 1910, and is at present engaged in chemical research work in Munich, Germany. Under the scholarship he will probably continue medical research.

DR. C. EVERETT FIELD DIRECTING HOLOTHEOL

THE Holotheol Chemical Company, New York, celebrates the New Year with the election of Dr. C. Everett Field as President. Dr. Field for many years has been directing the advertising department of the Kress & Owen Co., and is well schooled in every phase of the drug business. His extensive laboratory work, coupled with clinical labor, gives him an authoritative knowledge of his specialty, antisepsis. Wide experience, together with a wholesome enthusiasm, makes the new business connection most fitting; it will give him opportunity of broadening the sphere of usefulness of the Holotheol products, all of which have recognized merit as antiseptic agents. Dr. Field just now is well-nigh overwhelmed with the congratulations coming from a great host of friends in medical and drug circles, and if this be a token of a forerunner in business, Holotheol products will certainly show a marked increase in popularity. Medical ethics of the highest standard are observed in marketing these pharmaceuticals, and every facility will be offered to the profession for scientific proving.

Dr. Field is a member of the American Medical Association,

New York State Medical Society, Queen's and Nassau County Medical Societies, National Geographical Society, Advertisers' League, etc. He is president and founder of the People's Forum and organizer of Temple Forum and many societies of the "uplift" kind among young men.

MISSIONARY PHYSICIANS WANTED

A well qualified Christian male physician is required for a new hospital in South China near Canton, where there is great opportunity for Christian medical work.

Other medical men and women and nurses are required in North China and in India. Apply to the Secretaries, Presbyterian Foreign Mission Board, 439 Confederation Life Bldg., Toronto.

SAUNDERS NEW BUILDING

W. B. Saunders Company, medical publishers, are now established in their new building on West Washington Square—an ideal site right in the heart of Philadelphia's new publishing centre.

The remarkable success of this house, and the rapid growth of their business, with the increased facilities which this growth demanded, necessitated removal to larger quarters. They therefore erected a seven-storey building, housing all their departments under one roof.

Constructed of reinforced concrete, the building is absolutely fireproof, and equipped with every modern aid for the manufacture and distribution of medical books, and for the comfort and convenience of their employees.

A cordial invitation is extended the profession to inspect the new plant.

PERSONALS

We beg to extend to Dr. T. S. Webster, Toronto, our deepest sympathy on the death, a few weeks ago, of his esteemed wife.

We are glad to be able to announce that Dr. W. J. Wilson has almost recovered from his recent illness.

The Physician's Library

BOOK REVIEWS

Internal Medicine. By David Bovaird, Jr., A.B., M.D., Associate Professor of Clinical Medicine in the College of Physicians and Surgeons of Columbia University, etc., etc. Philadelphia and London: J. B. Lippincott Company. 1912. 618 pp.

This book is the work of a skilled teacher, who, in the preface, confesses his discontent with the books which his students have had to use; written with the object, as he also says, of "supplying the framework of internal medicine." It is the most concise, compact, and withal, modern, systematic treatise we have yet seen; not a compend or collection of tabulated facts, but free of padding, and compresed after the manner of Tacitus' Histories. Treatment has but little place in this work, an ominous indication of the extent to which the teacher of what is nowadays called medicine has been induced, or forced, to spend time on etiology, symptoms, diagnosis, etc., and to leave to someone else the teaching of treatment, the end of our existence as a profession.

J. T. F.

Guide to Midwifery. By David Benj. Hart, M.D., L.R.C.P.E., Lecturer on Midwifery, School of Royal College, Edinburgh, etc., etc. With 4 illustrations in color and 268 diagrams. New York: Rebman Company. Price, $6.00.

Every worker in this subject is acquainted with the valuable contributions which Dr. Benj. Hart has made to the science and practice of Obstetrics. In this, his latest addition to the literature of the subject, he follows the same lines of independent observation and original thought which have characterized his other writings. The result is a text-book which stands by itself. The Guide to Midwifery possesses individuality. No one but Hart could have written it. The arrangement is unusual in that the book is divided into two parts. The first part deals with the

subject in general. The second contains references to and abstracts from important papers on the various subjects treated of in the first. Dr. Hart's intimate acquaintance with the literature of obstetrics and the allied sciences is such as to render this section of the book of the utmost value to the teacher and original worker. In this part the author also gives his own views on heredity and Mendelism, and on various other subjects to which he has devoted special attention. The main part of the book contains all that the student of medicine need know, and at the end of each chapter instructions are given regarding practical work in anatomy on the model and in hospital. The text is not overburdened with illustrations, but those presented are all well chosen and serve their purpose admirably. This is a book which everyone interested in obstetrics ought to possess.

B. P. W.

Further Researches into Induced Cell-Reproduction and Cancer. Volume II.

This volume is published by the John Howard McFadden Researches, and contains papers by H. C. Ross, J. W. Cropper and E. H. Ross. They have worked on the theory that cell-proliferation and cell-development are directly brought about by chemical agents set free by cell death. This is the third book they have published on the subject; in it they give the results of animal experimentation, and show the inhibitory effect of blood serum of healthy persons on the action of auxalies.

G. S. S.

The Practical Medicine Series. Vol. V., Obstetrics. Edited by Joseph B. De Lee, A.M., M.D., with the collaboration of Herbert M. Stowe, M.D. Series 1912. Chicago: The Year Book Publishers, 180 N. Dearborn Street. Price, $1.25.

The volume on Obstetrics of this valuable series maintains the high standard set in former years. All the most valuable contributions to obstetrical literature during the preceding year are brought under review, and copious extracts and illustrations given. The papers are grouped together according to subject, and the volume can be read through from beginning to end like a text-book, or any special point in which the reader is interested can be readily found. To the practitioner it presents the latest

teaching in all branches of obstetrics, and to the specialist, abstracts of many papers to which access is not always easy.

B. P. W.

Cutting It Out. How to Get on the Water Wagon and Stay There. By SAMUEL G. BLYTHE. Chicago: Forbes & Co., 1912.

This little book consists of five chapters, entitled, "Why I Quit," "How I Quit," "What I Quit," "When I Quit," and "After I Quit." As the titles will show, the book is eminently practical and full of the best kind of advice to many an unfortunate man and woman. W. A. Y.

The Canadian Association for the Prevention of Tuberculosis. Twelfth Annual Report, with transactions of its Annual Meeting, held in Toronto, Ontario, May 20th and 21st, 1912.

We congratulate Dr. Porter on this report, and can realize the amount of work he put in to get it out. The volume contains a number of splendid papers, and is worthy of preservation.

The University of Toronto Medical Bulletin for December is most creditable. This is but the second issue that has come out, though it was understood that the journal was to be forthcoming quarterly. Some of the papers in the December number were: "An Unusual Fibroid Tumor in the Uterus," by F. W. Marlow; "Surgical Treatment of Exophthalmic Goitre," by H. A. Bruce; "The Therapeutic Use of Tuberculin," by G. W. Ross; "The Use of Thyroid in the Treatment of Acne," by Graham Chambers. We wish to congratulate the publishers on their journal, particularly Dr. Graham Chambers, who, so we are told, "stayed up o'nights" to get his pet "athriving."

Building a Profitable Practice. Being a text-book on Medical Economics. By THOS. J. REILLY, M.S., M.D.; Professor of Applied Therapeutics, Medical Department, Fordham University, New York City. Philadelphia and London: J. B. Lippincott Co. 1912.

It will take only the title of this book to ensure a large sale. Many a physician who, it may be, has been struggling up a long, hilly and rocky road for years, will be only too glad to invest the

amount necessary in order to find out the author's secret of "Building a Profitable Practice." The starting-point of a medical career is a serious epoch in one's life. Yes, it is momentous. The perusal of Dr. Reilly's book will materially solve the question, and, we trust, will mean to every doctor who reads it a greater degree of success in life and a more comfortable old age.

W. A. Y.

Practical Medicine Series, comprising ten volumes of the year's progress in Medicine and Surgery. Under the general editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago, Post-graduate Medical School; CHARLES L. MIX, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume I. General Medicine. Edited by FRANK BILLINGS, M.S., M.D., head of the Medical Department, and dean of the Faculty of Rush Medical College, Chicago; and J. H. SALESBURY, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1912. Chicago: The Year Book Publishers, 180 N. Dearborn Street. Price of this volume, $1.50. Price of set of ten volumes, $10.00.

This volume is one of a series of ten issued monthly, and covering the entire field of medicine and surgery. Each volume is complete for the year prior to its publication on the subjects of which it treats. The series is published for the busy general practitioner, but those interested in any special department may buy the volume or volumes they may desire.

The present volume is devoted mostly to tuberculosis and diseases of the lungs, diseases of the heart and arteries, diabetes, urinary diseases and diseases of the blood. The articles are good and plenty full enough for all ordinary purposes. These little volumes are intended to assist the busy practitioner to read the best for the year with the least expenditure of time and energy.

W. J. W.

LISTERINE

Listerine is an efficient, non-toxic antiseptic of accurately determined and uniform antiseptic power, prepared in a form convenient for immediate use.

Composed of volatile and non-volatile substances, Listerine is a balsamic antiseptic, refreshing in its application, lasting in its effect.

It is a saturated solution of boric acid, reinforced by the antiseptic properties of ozoniferous oils.

After the volatile constituents have evaporated, a film of boric acid remains evenly distributed upon the surfaces to which Listerine has been applied.

There is no possibility of poisonous effect through the absorption of Listerine.

Listerine is unirritating, even when applied to the most delicate tissues ; in its full strength it does not coagulate serous albumen.

For those purposes wherein a poisonous or corrosive disinfectant can not be safely employed, Listerine is the most acceptable antiseptic for a physician's prescription.

Listerine is particularly useful in the treatment of abnormal conditions of the mucosa, and admirably suited for a wash, gargle or douche in catarrhal conditions of the nose and throat.

In proper dilution Listerine may be freely and continuously used without prejudicial effect, either by injection or spray, in all the natural cavities of the body.

Administered internally, Listerine is promptly effective in arresting the excessive fermentation of the contents of the stomach.

In the treatment of summer complaints of infants and children, Listerine is extensively prescribed in doses of 10 drops to a teaspoonful.

In febrile conditions, nothing is comparable to Listerine as a mouth wash ; two or three drachms to four ounces of water.

"The Inhibitory Action of Listerine," 128 pages descriptive of the antiseptic, may be had upon application to the manufacturers,

LAMBERT PHARMACAL COMPANY,

Church and Gerrard Streets Toronto, Ontario

FOOD AND THE BLOOD: THE EFFECT OF SODIUM CASEINOGENATE AND GLYCEROPHOSPHATE

An exceedingly interesting paper, the result of an exhaustive series of experiments on the changes in the blood induced by feeding, has recently been contributed to the *Lancet* (London) by Dr. Gustav Mann, working with Mr. John G. Gage, of the Physiological Department of the Tulane University of Louisiana. Dr. Mann's mode of procedure was to starve for twenty hours, and then take a meal of Sanatogen, which, as is generally known, consists of casein (95 per cent.) and sodium glycerophosphate (5 per cent.). He proved that there was a marked increase in nuclear metabolism, a fact which invariably accompanies cellular metabolism. The red blood cells increased in size, and both the nuclei and cytoplasm were somewhat swollen, while the white cells were stimulated to undergo nuclear division.

Whether this stimulative action depends on the rich protein food, or on the glycerophosphoric acid or on the fortunate combination of these two radicals, is a question which the authors had not definitely determined at the time of writing their paper, but they hope soon to be able to answer it definitely. Taken in combination with articles which have appeared from time to time in *The Medical Press and Circular, The General Practitioner, The Wiener Klinische Wochenschrift,* and other leading medical journals, the results demonstrate the importance of Sanatogen in the treatment of anemic and chlorotic conditions, for counts have shown an increase of from 300,000 to 500,000 red corpuscles per cubic centimetre in three weeks, with a rise in the hemoglobin richness of from 4½ per cent. to 16 per cent., when the preparation has been added to the food.

A SEVERE BURN

BY H. B. LEE, M.D., SUMMERVILLE, N.C.

My first use of Antiphlogistine in burns and scalds was accidental. I was called by telephone to Mr. J. T., aged twenty-seven, weight 180 lbs., brick-maker, a steampipe having exploded between his legs, scalding him badly. I ordered that no grease of any kind be used, but that cloths soaked in a strong solution of bicarbonate of soda should be laid on the parts till I could get there. I stopped at a drug store to procure another salve I had used in such cases, and by mistake the clerk gave me two boxes of Antiphlogistine. When I reached my patient I found him suffering intensely, with a big blister extending from the crotch to the ankle on the inner side of both legs, at least three inches wide, and surrounded by a red, inflamed surface two inches wide on each side.

I had used Antiphlogistine before in pneumonia and in sprains; so when I found that by mistake this had been sent I decided to try it. I covered the entire injured parts with a thick layer of Antiphlogistine (applied cold), put absorbent cotton over all, and after bandaging loosely to keep things in place, took Mr. T. home in my buggy. When I first saw him his face was contorted

Medical Opinion Concerning Coffee

is more concrete, definite, decisive to-day than it ever was before.

The Doctor of the present time **knows definitely** why he must, under certain conditions, for the best interests of his patient, forbid coffee as a beverage.

He knows, for example, that the active principle, Caffeine, in coffee, acts directly as a stimulant on the heart and, in this way, increases the blood-pressure when it might be desirable to relieve an already too-high tension.

Acting on the heart in this definite way, if used as a routine stimulant, coffee, in time, must inevitably produce more or less irregularity of the heart's action, and thus be the fore-runner of greater or less serious chronic trouble (some persons being more susceptible than others.)

The logical, easy way to **lead** the patient out of the impending danger (be it of whatsoever degree) is to prescribe the well-known, wholesome and agreeable drink, **POSTUM.**

Made of clean, hard wheat and the juice of Southern sugar-cane, this cereal beverage is **not** in any way harmful but in a degree, nutritious.

Postum now comes in new convenient form called

INSTANT POSTUM

It is percolated at the factory and reduced by special sanitary process, to a concentrated powder. A teaspoonful of the powder in a cup with **hot** water produces a perfect cup **Instantly.**

The flavor of "Instant Postum" is always the same—refreshing, delicious, wholesome, satisfying.

The "Clinical Record," for Physicians' bedside use, together with samples of **Instant Postum, Grape-Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any physician who has not yet received them.

Postum Cereal Company, Limited, Battle Creek, Michigan, U. S. A.

with pain, and he could not suppress the groans that the agony wrung from him; but, as I covered more and more of the burnt surface with the dressing, I could see the expression of pain leaving his face. I gave him some medicine to relieve pain, and when I called again that evening I found he had not touched the anodyne. I asked him why he had not touched his medicine. "Well, doctor," he said, "you told me to take that every two hours while I was in pain, and I have not had any pain."

The next day I let him leave his room, and in three days he was back at work. I did not touch the dressing for five days, and when I took it off the parts had healed entirely.

There are two important points in the use of Antiphlogistine. First, put it on thick, thick, thick, using it hot for internal inflammations and cold for burns and scalds. Second, never put cloth over the Antiphlogistine, except a thin layer of gauze, if necessary, but put absorbent cotton in thick layers over your first dressing. Don't try to remove it as long as it sticks to the skin, for it will let go as soon as it has done its work. I have used this preparation (Antiphlogistine) frequently since then in severe burns and scalds, and yet have to meet my first disappointment in its curative power.

THE PHYSICIAN'S DUTY

PHYSICIANS are becoming more and more impressed with the value of prophylactic measures. Therefore, to instruct patients of the gentler sex in hygienic and sanitary principles and procedures is both duty and a privilege.

It is a fact, often not entirely appreciated even by physicians, that the vaginal douche, properly employed, should be used frequently, even in the absence of any abnormal condition. Despite the opinions sometimes expressed that frequent douching is not advisable, that the natural secretions being sufficiently germicidal should be allowed to remain, etc., it is a matter of common knowledge and experience among women of any degree of refinement that proper toilet of the vaginal tract is as valuable, necessary and indispensable as the use of the toothbrush.

This being true of women whose genital tract is in a normal and healthy condition, it applies with augmented force to the vast proportion of cases in which there is some abnormal condition present, such as excessive mucous secretions, leucorrhea, vaginitis, endocervicitis, endometritis, congestion, irritation, etc.

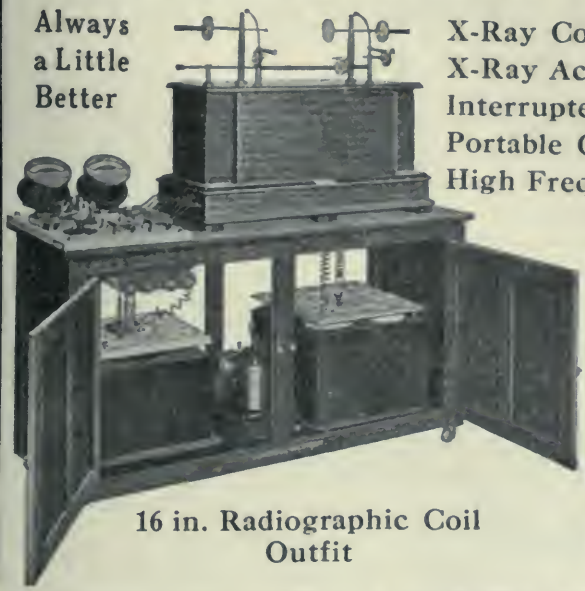
It is indeed a matter of common and daily experience that women who are nervous, irritable, easily worried, cross, peevish, moody, etc., are often greatly benefited by the use of warm or hot vaginal douches, properly employed, by means of a suitable apparatus or syringe.

Cleanliness of the genital tract is for women not only a valuable sanitary and hygienic measure, but also in many instances an absolute necessity, in order to prevent physical irritation or discomfort, as well as mental unrest.

The proper use of the Marvel Whirling Spray Syringe is not only instrumental in the treatment of diseased conditions, but is also of great value as a prophylactic measure.

Scheidel-Western Apparatus

Always a Little Better



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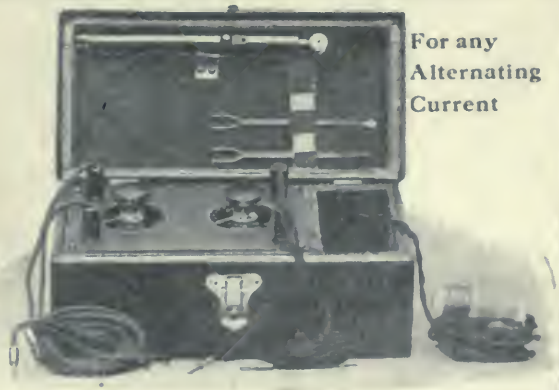

For any Alternating Current

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Largest Manufacturers of Electro-Therapeutic Apparatus in the World

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SOLVES THE DIFFICULTY

IODINE is one of the many drugs which would find a much more extended use and offer a wider range of application could only the forms in which it is presented to the physician, while retaining the full therapeutic value of the drug, be free from any attendant disadvantage.

Very little attention, however, appears to have been devoted to Iodine with the object of eliminating the disadvantages it undoubtedly possesses when used as an external application in the free state. The results attained in this direction show that in seeking to remove objectionable features the activity of the Iodine itself has usually been destroyed or retarded by its becoming chemically "fixed" and unavailable in the free condition.

"*Iodex,*" a scientific product, prepared by Menley & James, Ltd., of Canada, completely solves the whole difficulty of effective free Iodine application without any attendant drawbacks, and opens out wide possibilities of a greatly extended use of Iodine.

This interesting combination, which is odorless, is of an intense black color. Upon being applied with gentle friction to the skin, the color rapidly disappears, demonstrating the complete absorption of the Iodine.

The disappearance of color is due to a special combination of organic bases, which are impregnated with Iodine in a gaseous condition. These bases form a protective film around the Iodine ions. This unique property of the bases effectually prevents the skin from becoming impermeable or affected in any way, but permits and tends to assist the absorption into the tissues of the free Iodine.

Sample and literature may be had, on application, from Menley & James, Limited, of Canada, Craig St. West, Montreal, Que.

THE BETZ PLANT

FEW physicians realize that the Frank S. Betz Co., of Hammond, Indiana, are one of the largest manufacturers in the world of operating chairs, table sterilizers, cabinets, hospital beds and furniture, batteries, vibrators, therapeutic lamps, motors, dynamos, static machines, X-ray machines, X-ray coils, X-ray tubes, and thousands of different kinds of surgical, dental and veterinary instruments, dental chairs, engines and cabinets, veterinary operating table and every instrument and appliance required by the veterinary surgeon.

Fifteen years ago the Betz plant occupied 120 feet of floor space, ten years ago less than 15,000 feet, five years ago 84,600, and to-day over 160,000 square feet, and the plans are now being made for a building with over 60,000 feet of floor space to be erected during 1911.

This business was started by Mr. Betz with a capital of less than $25. The company ships to over 80,000 customers in all parts of the world; they operate six printing presses, and issue 17 different catalogues. They have over 400 employees at Hammond and over 300 others work on contract. Every article sold is guaranteed; money back after you examine and test it.

Every physician, surgeon, dentist or veterinarian should have one of their catalogues. If you write them state which one you want.

THE MULFORD

Antipneumococcic Serum

(Polyvalent)

This is a polyvalent serum produced by immunizing horses against the different living pneumococci and is successfully employed in the treatment of lobar pneumonia The serum has an abortive influence as shown by the fact that frequently after its administration the temperature falls permanently by lysis instead of crisis and there is a change in the physical signs, indicating that the consolidated area is undergoing resolution. In bronchial pneumonia and in mixed infections Antistreptococcic with Antipneumococcic serums are successfully employed.

Recently we have improved our process for producing the serum by using washed pneumococci. We now give the horses producing antipneumococcic serum up to a litre of a suspension of the washed living cultures, while formerly only 50 to 100 c.c. of the whole bouillon or agar' cultures were injected. Consequently, our horses should develop a higher immunity.

Goldsborough (Jour. A.M.A., June 23, 1902) reports the use of antipneumococcic serum in 447 cases with 70 deaths, a mortality of 15.7 per cent.

Tyler reports a death-rate of 14 per cent. in 141 cases where antipneumococcic serum was used. Such observations indicate that the serum possesses marked curative value when administered early in full doses.

Dose, 20 to 80 c.c. every four to six hours.

Antipneumococcic Serum (polyvalent) **and Antistreptococcic Serum** (polyvalent) are furnished in packages each containing 20 c.c., in two glass syringes of 10 c.c. each.

Working Bulletin on Influenza Bacterin, Antipneumococcic and Antistreptococcic Serums mailed upon request

The Mulford physiologically tested, standardized and dated preparations of Digitalis and Ergot insure definite results in digitalis and ergot therapy

H. K. Mulford Co., Philadelphia

New York	St. Louis	Minneapolis	New Orleans	Seattle
Chicago	Atlanta	Kansas City	San Francisco	Toronto

IF THE TAPEWORM COULD TALK

If the tape-worm could only talk he would refer sarcastically to many preparations of male-fern now dispensed. Designed for his eviction, countless doses have been impotent against him and, despite them all, he continued to remain, as ever, on the premises, very much alive.

But Taenicide (Abbott) spells his finish. It's the one preparation which he fears and cannot hold out against.

Here's the formula:

Oleoresin male-fern	drs. 2
Chloroform	mins. 90
Croton oil	mins. 4
Castor oil, to make	ozs. 2

Taenicide (Abbott) brings the parasite at the very first trial, nearly always, head and all. Nothing else does the work so effectually.

The doctor-in-charge of a certain state penitentiary said recently: "We have used it here for many years, and always with success. I can't recall that it has ever failed us. We tried, once, to make up some stuff, copying your formula and using materials bought at the drug-store, but we failed dismally. The imitation article did not work as we expected."

The makers take great pains to select, for this formula, a first-class quality of male-fern, which is one of the reasons it does the work so well.

The doctor who needs (and every doctor does quite frequently) will find this preparation to do exactly what it is intended to do. Send for a circular.

A POSSIBLE REVOLUTION IN THE TREATMENT OF INFECTIOUS DISEASE

Are existing methods of treating bacterial diseases to be fundamentally changed? Do the Phylacogens furnish the key to a new and enlightened therapy? Medical and other scientific men are beginning to ask these questions. Less than one year ago the name Phylacogen had not been injected into the language. To-day you can scarcely pick up a medical journal that does not contain some reference to the remarkable group of products for which it stands.

What are Phylacogens? Briefly, they are sterile aqueous solutions of metabolic substances generated by bacteria grown in artificial media. The name Phylacogen (from the Greek) means "phylaxin-producer"—literally, "a guard" and "to produce."

The initial Phylacogens were originated by Dr. A. F. Schafer in 1908, the method of preparation and technique of application being first presented to the San Joaquin Medical Society in Fresno, California, in October, 1910, and later to the San Francisco Medical Society (January 14, 1911). Subsequently, the preparation of the Phylacogens was entrusted to Parke, Davis & Co., the work of manufacture being carried on at the company's biological laboratories.

The principle upon which the use of the Phylacogens is founded is the

The Germicidal Power of Wulfing's Formamint

Experiments Carried Out in the Physiological Laboratory of Dr. Piorkowski, Berlin

The interesting experiments depicted here must carry conviction to every open mind. They were made with a bacillus which is well-known to scientists as one endowed with exceptionally great powers of resistance. This hardiness makes the results all the more convincing. The illustrations are reproduced from actual photographs of the experiments, showing the growths obtained on sterilized potatoes which had been inoculated with the bacillus prodigiosus. This particular medium was selected for the reason that the bacillus prodigiosus produces on it a growth of rich blood-red color, and any variation in the growth is easily discernible.

Fig. 1 shows the unsterilized potato with the natural abundant growth of this bacillus—deep blood-red velvety vegetation, familiar to all bacteriologists.

Fig. 2 shows a potato which had been treated with a small portion of human saliva in which *one* Formamint Tablet had been dissolved. The bacillus has failed to grow beyond the actual lines of inoculation made by drawing the infected platinum wire across the surface of the potato.

Fig. 3 shows a growth inoculated in precisely the same manner, but the development of the bacillus has here been checked by the previous application of a little human saliva taken after *two* Formamint Tablets had been sucked. The growth is restricted to a very small part of the potato and is broken up, showing the feeble development.

Fig. 4 shows that the growth of this resistant microbe has been absolutely prevented by the previous application of saliva taken after *three* Formamint Tablets had been sucked. Nothing except the scratch marks made by the platinum wire on the plate is visible. Not a bacillus out of the thousands inoculated has been able to survive the sterilizing effect of Formamint.

These illustrations show the growth of the Bacillus Prodigiosus inoculated on a potato, and its subsequent destruction by Formamint.

1. Without the use of Wulfing's Formamint. Germ growths very luxuriant.

2. Before inoculation this potato was treated with saliva in which *one* Formamint Tablet had been dissolved.

3. Further destruction of germ-growths owing to the use of two Formamint Tablets.

4. After disinfection with saliva in which *three* Formamint Tablets have been dissolved. Germ-growths totally destroyed.

Wulfing's Formamint alone has this powerful germicidal action. None of its various imitations possess this property; in fact, there is no evidence in medical literature to prove their reliability. The reason is that Wulfing's Formamint is the only throat tablet in which the germicide is locked up securely within it until the moment when it comes in contact with the saliva, so that it is liberated from the chemical combination in the nascent state, when its chemical energy is greatest.

Samples and literature sent, free, to the Medical Profession on application to Messrs. A. Wulfing & Co., 12 Chenies Street, London, W.C.

theory of multiple infections. Three facts are set forth as the basis of the new therapy:

1. Practically all acute and many chronic diseases are caused by the metabolic products of bacteria.

2. The human subject is the host of micro-organisms that are pathologically latent, but capable of setting up a disease process under certain conditions.

3. The growth of infecting micro-organisms can be arrested and their effects neutralized by products derived from their development in artificial culture media.

Five Phylacogens are now available: Rheumatism Phylacogen, Erysipelas Phylacogen, Gonorrhea Phylacogen, Pneumonia Phylacogen, and Mixed Infection Phylacogen (the last-named being applicable to the multiplicity of infections which may be said to be of questionable etiology). They are supplied in rubber-stoppered glass bulbs of 10 c.c. capacity, and are administered hypodermatically (subcutaneously or intravenously).

Many experienced physicians, representing both private and hospital practice, believe that in the Phylacogens we have the most efficient remedial agents yet devised for the treatment of acute and chronic infections.

A NEW URINARY ANTISEPTIC

Amphotropin, or hexamethylenetetramine camphorate, is an efficient internal urinary antiseptic, now being introduced to the American medical profession by the Farbwerke-Hoechst Company, 34 Beach Street, N.Y., which will send samples to physicians.

Dr. Eugene Remete (*Pester Med. Chir. Presse,* 1912, No. 11) says that Amphotropin reduces abnormal micturition in subacute and chronic conditions, increases diuresis, particularly in pyelitis and pyelonephritis, removes sloughing epithelium, increases urinary acid reaction, has a solvent action on uric acid, and kills species of bacteria, against which other urinary disinfectants are helpless.

LAURENTIA MILK, AN IDEAL FOOD FOR CHILDREN

Laurentia Milk having, by means of homogenization, been rendered more digestible and easy to assimilate, constitutes a choice food for infants; it is the best substitute for mother's milk that it is possible to procure anywhere.

Being perfectly sterilized it is free from all noxious germs.

It cannot transmit either typhoid fever or measles, scarlatina or diphtheria, nor the dread white plague—tuberculosis—of all of which diseases other milks may at any time become the agents and propagators.

On account of its delicious creamy flavor, its edible qualities and its immunity from germs, it is the best food for all, great and small; for those who seek to regain health and for those who desire to preserve it.

As a food product it realizes the desideratum of sensible people—the best value for the least money. Orders for Laurentia milk are promptly filled by phoning the Laurentia Milk Co., 371 Queen St. W., Toronto.

IF YOU HAVE A CASE of mal-nutrition where the patient remains obstinately too thin, you will be interested in the results of the new researches on Bovril carried out at the School of Physiology, Dublin. The tests made in the physiological laboratory proved conclusively the remarkable power of Bovril in building flesh. The subjects of the tests, both animal and human, increased in weight while Bovril was administered by from 10 to 20 times the amount of Bovril taken.

BOVRIL

IS CONCENTRATED BEEF

(Ung. Iodi, "M.&J.") **IODEX** *(For External Use)*

Contains 5 per cent. of IODINE (therapeutically free) in a neutral base. In pots, price 35 cents

Distinctive Characteristics { DOES NOT STAIN OR IRRITATE THE SKIN. IS ABSORBED WITH GREAT RAPIDITY. IS ENTIRELY FREE FROM SOLVENTS SUCH AS ALKALINE IODIDES, ALCOHOL OR GLYCERINE.

IODEX entirely solves all difficulties hitherto connected with external use of Iodine.

IODEX presents Free Iodine in its highest therapeutic activity.

IODEX is indicated in: RHEUMATISM, GOUT, ARTHRITIS, SYPHILIS, TUBERCULOUS and SWOLLEN JOINTS, ENLARGED GLANDS, RINGWORM, CHILBLAINS, and ALL INFLAMMATORY CONDITIONS

Samples and Literature Sent on Application.

MENLEY & JAMES Ltd., of Canada, 337 Craig St. West, Montreal

COCOIDS

EVERY practitioner is well aware of the difficulty experienced by parents and guardians when administering medicines to children, and the frequent inaccuracy of dose caused by the struggle. A very different condition of affairs is attained when the medicine is prescribed in Cocoid form.

Cocoids are tiny pastilles of the purest milk chocolate, into the mass of which the medicament has been so intimately incorporated that the whole may be sucked or chewed without any flavor of the drug being detected.

As children and the most fastidious of adults take Cocoids readily, their introduction is important, and one which has already met with the approval of many members of the medical profession.

Cocoids are very different to compressed tablets; being made of chocolate they are obviously completely soluble, and therefore totally effective, the whole dose is taken, none being left over in the glass or spoon.

Cocoids are considered sweetmeats by children, and they establish cordial relations between the doctor and his little patients.

"Cocoid" Parrish's Food (Ferri Phosphatis Co.)—The prescribing doctor will appreciate the advantages of giving this valuable nutritive tonic and hematinic in this form, not the least of which is they do away with the difficulty of giving medicine to fractious children. This is the reason why they are even more appreciated by the mother or nurse who administers the medicine.

It is well known that the free acid in liquid Parrish's Food attacks the enamel of the teeth. This cannot occur with "Cocoids," and it is hardly necessary to point out that they avoid the deterioration of liquids, i.e., precipitation, fermentation, etc.

"Cocoids," Ferri Phosphatis Co., are valuable in rickets, anemia and other results of malnutrition.

Summary of reasons for prescribing "Cocoids":—

I.—"Cocoids" Parrish's Food are liked by children, who think them sweetmeats.

II.—"Cocoids" Parrish's Food are superior to liquid syrups, as they do not attack the teeth.

III.—"Cocoids" Parrish's Food are always active; they do not precipitate or vary in strength.

IV.—"Cocoids" Parrish's Food are convenient; they are simply sucked or chewed, and they avoid measuring and mixing with water, etc.

Allosan.—Dr. R. B. Lothian, M.B. Cm. (Glas.), has achieved very satisfactory results with Allosan in gonorrhea, and recommends the preparation on account of its odorlessness and tastelessness. These properties are valuable apart from the therapeutic efficiency, because the remedy can be taken in a perfectly discreet manner. The clinical reports show that, as regards the internal treatment of gonorrhea, Dr. Lothian confined himself in the main to Allosan, the dose being two 7½-grain tablets given 3 to 4 times daily. Cure resulted in the course of two to three weeks. Lothian draws the conclusion that an internal Allosan medication is alone able to cure gonorrhea, which confirms the opinion of other authors. Undesirable secondary effects on the digestive organs or otherwise, were not observed.—*The Therapist*, 1911, No. 1.

BRAND'S

ESSENCE OF BEEF AND OF CHICKEN

For Exhaustion and Weak Digestion

The Best Restoratives After Loss of Blood From Any Cause

IN GLASS AND TINS

BRAND'S Essence contains no added condiments or stimulants. It is a pure meat essence in the form of a very delectable golden-coloured jelly, pleasant to take, and easy of assimilation by the most delicate digestion.
MEAT JUICE, and other Invalid Delicacies.

BRAND & CO., LIMITED, MAYFAIR, LONDON, ENGLAND
NEWTON A. HILL, 25 Front St. East, Toronto. H. HUBBARD, 27 Common St., Montreal

Knorr's Consomme -Cubes-

Each cube one cup.
"Ready in a minute."

2 cubes 5 cents.

If you like the

Consomme

try

KNORR'S

SOUP SQUARES
and
MIXED VEGETABLES

At your Grocers

ALLAYS COUGH AND PROMOTES FREE EXPECTORATION

INASMUCH as cough is the psychical as well as the physical tormentor of every person afflicted with pulmonary phthisis, and in view of the fact that if it is not repressed it unmercifully robs the patient of his vital force and deprives him of the rehabilitating influences of rest and sleep, the efforts of the physician ought to be directed toward its abatement.

The treatment being essentially a prolonged one, care must be taken to select a remedy which will afford the desired relief without begetting the drug habit, deranging the already sensitive stomach, or in any other manner adding to the patient's affliction.

Glyco-heroin (Smith) enjoys the preferment of a large proportion of the medical profession in the treatment of these cases. It immediately allays the cough, stimulates the respiration, reduces the fever, promotes the free and unlabored expectoration of the sputa, exercises an antiseptic and balsamic influence upon the breathing passages, and induces healthful and refreshing sleep.

The delightful sedative action of the preparation causes it to be of unsurpassed value when the nervous system is involved, or where the cough is sufficiently persistent to disturb the sleep.

Glyco-heroin (Smith) is very extensively employed in institutions devoted to the treatment of pulmonary phthisis, and in many of them it is made a routine practice to administer it, exclusively, for the suppression of cough.

DIET IN DISEASE

WE would suggest that our readers send to Messrs. Brand & Co., Ltd., London, England, for a copy of their booklet entitled "Diet in Disease." This booklet contains a fund of information regarding diet in general, though particularly in reference to the different preparations as made by the firm.

For instance, in Acute Fevers, associated with abdominal diseases, they recommend Brand's Beef Peptone, 1 tablespoonful in alternation with Peptonised Milk, 3 oz., every two hours. The milk may be substituted by Brand's Beef Tea Jelly, 1 oz., Albumen water (white of 1 egg to 5 oz. of water), flavored with lemon, allowed ad lib. Grapes (without skins or seeds).

For other acute febrile conditions they suggest the following: Brand's Essence, two teaspoonfuls hourly. Brand's Beef Broth or Tea, 4 oz. two-hourly in alternation with Brand's Calf's Foot Jelly, two tablespoonfuls. Albumen water, lemonade or cold water ad lib. Grapes, oranges (free from skins and pips). In convalescence or sub-acute conditions the following combinations will be found useful: Brand's Essences and Invalid Soups, arrowroot, milk puddings, rice, sago, tapioca and corn flour, mashed potatoes, green vegetables, grapes, oranges, bananas, boiled whitefish, rabbit or fowl.

The feeblest appetite is stimulated and the flow of digestive juices is immediately excited by a teaspoonful of Brand's Meat Juice, which should be ordered just before meals. It far excels unpleasant vegetable bitters and alkaloids, for it is not only a stimulant, but a food.

"Expels without discomfort to the patient the poisonous toxins that form in the alimentary canal and is of particular value in the treatment of febrile conditions."

Wyeth's

GRANULAR **Salinates** EFFERVESCENT

SUPPLIED IN SEALED BOTTLES
CONTAINING 1-4 LB. AND 1 LB.

PREPARED BY

JOHN WYETH & BROTHER
INCORPORATED

Manufacturing Pharmacists, PHILADELPHIA, PA.

WINE AS A VEHICLE

THE tonic and digestive properties of wine are well known to the profession, but its use as a vehicle for administering certain important foods and drugs has not, up to the present, been fully realized.

Recent experiments have shown that substances in alcoholic solution are more rapidly absorbed than those in aqueous solutions, hence the Liebig's Extract of Meat and the Extract of Malt in "Wincarnis" is rapidly assimilated.

The wine, which is of good quality, stimulates the digestive functions, and the Malt Extract acts as a restorative and aids starch-conversion. It will thus be seen that "Wincarnis" is rapid in action, highly nutritious, and more palatable than the ordinary tonics, beef-tea, etc.

Its use is indicated in all cases of convalescence from severe illness, and it has proved especially effective in the depression following influenza. Its tonic properties are marked in cases of anemia, general physical weakness, and in the aged; also in cases of wasting or inanition, such as phthisis and other tubercular affections. Liebig's Extract being a nerve food, "Wincarnis" is most useful in cases of neurasthenia and other nervous diseases.

For the more severe illnesses, "Wincarnis" is prepared with the addition of quinine, iron, phosphates, or Pepsin. These preparations are more palatable than those containing syrups or elixirs. The purity and quality of "Wincarnis" has been confirmed by two county analysts, and it is prescribed by over ten thousand medical men in England and the Colonies.

The most scrupulous care is exercised to maintain the standardisation of "Wincarnis."

As "Wincarnis" contains no drugs, it can be prescribed with perfect safety.

NASCENT FORMIC ALDEHYDE IN MOUTH AND THROAT INFLAMMATIONS

THE question of obtaining complete asepsis of the mouth and throat is a vitally important one in all inflammatory disorders of the mucous membrane and the glandular structures of these parts. The concensus of the best medical opinion points to Wulfing's Formamint tablets as the most certain means of obtaining this desideratum. The tablets which, as is well-known are fragrantly flavored, let loose nascent formic aldehyde when dissolved in the saliva, and the potency of this drug in destroying germs is a matter of common knowledge. A most convincing proof of this quality was given some years ago by Professor Seifert of the University of Wurzburg as the result of a prolonged series of experiments. He added a small quantity of saliva in which a Wulfing's Formamint tablet had been dissolved, to the germs of diphtheria taken from the throat of a patient suffering from that disease. The germs were all killed within ten minutes. This fact has been made use of practically for safeguarding those who have been exposed to diphtheria contagion. The exhibition of Wulfing's Formamint tablets prevents them being attacked by the disease.

MODIFIED MILK POWDER (C.M.P.).
SWEET WHEY POWDER (C.M.P.).

These Infant and Invalid Foods are daily proving their incomparable superiority over all others. They are the only prepared foods made by the spraying process, by which all moisture is extracted while the particles of milk are suspended in air and not by contact with heated metal. Hence they are the only ones in which the lact-albumen has not been coagulated nor the milk enzymes destroyed, insuring ready assimilability and full antiscorbutic properties.

MODIFIED MILK POWDER (C.M.P.) is a split-proteid modification made with milk ingredients only, suitable for the great majority of infants. Special modifications for particular needs can be easily made by the physician by addition of the suitable proportion of SWEET WHEY POWDER (C.M.P.).

Free samples sent to Physicians and Hospitals upon request.

CANADIAN MILK PRODUCTS LIMITED.
MAIL BUILDING, TORONTO.

A remedy to be therapeutically efficient must produce dependable results.

REMEMBER
Antiphlogistine
MEANS
THERAPEUTIC EFFICIENCY

INFLAMMATION and ANTIPHLOGISTINE

while not synonymous, the manifestation of one suggests the thought of the other. In **Inflammatory Rheumatic Joints, Lumbago, Sprains, Bruises, Frost-Bites, Chilblains and other Inflammatory Conditions, Antiphlogistine, applied thick and hot affords immediate relief.**

NOTE: A name qualifies both product and result. See that your first thought Antiphlogistine, is applied and not an imitation.

THE DENVER CHEMICAL MFG. CO., NEW YORK

WHEY POWDER FOR INFANTS

Dr. E. B. Forbes, Chief of Department of Nutrition, Ohio Agricultural Experiment Station, Wooster, Ohio, writes as follows:—

Gentlemen,—In reference to your suggestion that I write my experience in the use of whey powder with infants, I have to submit the following:

Very effective use of your sweet whey powder was made in my laboratory in the feeding of a child who presents a very unusually difficult feeding problem. At the age of three weeks the child suffered a complete closure (stenosis) of the pyloric opening of the stomach. A successful gastroenterotomy was performed. Two days' later the stitches pulled out and the operation had to be repeated. During this second operation an excited nurse put the child on to hot water bags, that were too hot, and its whole back was scalded. The shock was so great that it failed to revive, and blood transfusion from the child's father was resorted to when it was in a moribund condition. This operation was successful, but the feeding problem resulting from the whole series of calamities was very difficult. The child was fed with a tube and funnel for some weeks on modified cow's milk, the fat content being gradually increased to 4 per cent. in an effort to check the steady loss in weight. At this point, the child's conditions being such as to cause the physicians in attendance to lose hope in its recovery it came into my hands. It presented a typical case of infantile acidosis, caused by the starvation, anesthesias, the extensive burns and inability to resorb soaps. The fat was now greatly reduced in the milk, sodium citrate added and whey used in its modification. The dying child began to gain, and for the next 13 weeks averaged 8 ozs. per week. Its digestive apparatus was very weak, and we made a chemical study of the case, preparing the food in the laboratory every day for months. In order to have the proportion of albumen in the milk as high as possible in comparison with casein, we used your sweet whey powder with excellent effect. The child is now entirely well, a thoroughly normal, hammering, thumping and yelling little boy. The fact that he is the only male descendant in his generation of my relationship, has given me a great interest in the case.

We have done some other work with your product, which I shall have to report at a later date.

CEETEE UNDERWEAR

No class of men know better than physicians the value of a hygienic underwear. The market is drugged with underwear that is so deleterious to the health of the wearer that a garment that is not only pleasing to the individual but healthy, should not be overlooked by the medical profession. Ceetee pure wool underwear is *strictly hygienic, exceeding comfortable, and guaranteed unshrinkable.* As the name would indicate, it is made of the purest and finest Australian merino wool, which has previously been cleaned, scoured and combed until every particle of dirt and foreign matter has been extracted. When prescribing underwear for their patients, doctors might bear in mind the magic word, "Ceetee."

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THIS is one of the oldest and best-known manufacturing houses in Britain. They have obtained some of the highest awards in open competition at all important International Exhibitions during the past sixty years, including London, Paris, Adelaide (Australia), St. Louis, Mo., and Melbourne (Australia).

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They were among the first makers on a large scale of Hydrogen Peroxide, and their product of this is still one of the finest on the market.

In heavy chemicals they manufacture a number of articles, such as Lead Arsenate in paste and powder, now used so extensively for spraying fruit trees.

The medical men of Canada should know that May & Baker produce a full line of all modern products under their correct chemical names. For instance, they sell Acid Acetylsalicylic at its fair market value, but identically the same product is sold at prices having no relationship to its market value under other names.

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Messrs. May & Baker were established by John May in 1834, and it was in 1839 that the firm became known under the title of May & Baker. They were incorporated as a limited company in 1890. Their works and offices at Battersea comprise in all five acres, the site being interesting, as Garden Wharf was formerly a portion of Lord Bolingbroke's Garden.

The attention of the readers of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY is directed to the firm's advertisement appearing on page lxv. of this issue.

Validol.—Dr. A. Vavasour Elder, M.R.C.S., L.R.C.P., Ship Surgeon White Star Line, discusses seasickness in his "Ship Surgeon's Handbook," and says that Validol has proved a most excellent remedy for seasickness. In his practice he always applied it in the first instance and achieved good results in 70% of his cases. Its success as a prophylactic is even greater than as a remedy. In his opinion the usual method of giving Validol on a piece of sugar is not the most practical, as the large quantity of sugar may produce a tendency to sickness. He advocates the administration of 7½ to 15 grains Validol unmixed, or in a weak alcoholic solution, if necessary, every half hour. The preparation can also be given in capsules.

At this season of the year, when reports reach us daily of exceedingly rough passages across Mother Atlantic, physicians should see to it that their patients take a bottle of Validol with them, and thus avoid one of the most distressing of complaints.

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Therapeutic Advances

A palatable tonic food and reconstructive.

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Trade Mark

Rapidly increases weight, producing firm flesh, strong bones and healthy blood.

Unequalled for fortifying weaklings—infants and adults against the effects of cold weather.

Its beneficial effect is immediate in Anæmia, Debility, Rickets and wasting diseases generally.

It is a scientific combination of Fresh Red Bone Marrow, Cream of Malt and the Hypophosphites.

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Used in all the leading hospitals and sanatoria throughout the world.

Entirely Supersedes Cod Liver Oil.

Colloid Metals

A New System of Treatment.

'Collosols'

Argentum or Hydrargyrum
(1 in 2000)

Kill pathogenic micro-organisms in a few minutes yet are harmless to human beings.

"No microbe is known that is not killed in laboratory experiments within six minutes."
British Medical Journal, March 2nd, 1912

Used successfully in Gonorrhoea, Gonorrhoeal Conjunctivitis, Syphilis, Tonsillitis, Eczema, Rigg's Disease, etc.
'Lancet,' Feb. 3rd, 1912.

Given hypodermically, intravenously, by the mouth or applied topically.

NOTE.—Collosols are not precipitated by the blood when injected.

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CANADIAN MEDICAL EXCHANGE

Dr. W. E. Hamill, medical broker, who conducts the Canadian Medical Exchange, for the purchase and sale of medical practices and properties between vendors and vendees, informs us that at no time during the past eighteen years that he has been conducting this business has he had such an inviting list of offers for sale as at the present time. Most of the practices are located in the Province of Ontario, but he has many in New Ontario, Manitoba, Saskatchewan and Alberta. Bona fide buyers who will agree to treat confidentially data received from the Medical Exchange can get full information of any offers on the books with names and locations and secure a short cut to the goal desired free. Besides the practices he has for sale, he also has a number of locations without a doctor, where the inhabitants have petitioned him to send them a doctor and where population and area without opposition would warrant anyone in doing at least $3,000 a year cash. A letter to 75 Yonge Street, Toronto, will show you just how he conducts this business.

THERE ARE REASONS WHY PANCREOBISMUTH

has gained and holds great favor among the medical profession, and which is steadily gaining from year to year.

"*Pancreobismuth*" is now generally prescribed by the profession all over the United States. It contains the digestive principles, Pepsin, Pancreatin and Diastase in happy combination with other ingredients, which make it a most reliable and satisfactory digestant. It has a very high digestive power and wide range of adaptability. It gives the most satisfactory results in indigestion and dyspepsia, and is a most valuable remedy in cholera infantum, cholera morbus and diarrhea. It is manufactured with the greatest care to keep its quality uniform, and is put up in attractive and convenient sized bottles. The materials used in the manufacture of "*Pancreobismuth*" are the purest and best that money can buy.

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Knowledge is power. No physician can possibly know all in the limitless field of medicine. But he who will investigate the results to be secured in the use of Bannerman's Intravenous Solution in his practice will soon learn what a power for good, both professional and financial, he can obtain.

A two-cent stamp is an investment which will pay heavy dividends, if attached to an envelope of a letter requesting full information concerning Bannerman's Intravenous Solution. In early tuberculosis, anemia, and any condition of greatly lowered vitality, the results are a direct increase in

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MAY AND BAKER, LTD., manufacturers of pharmaceutical chemicals since 1834—offer at strictly competitive prices every description of pharmaceutical product—carefully standardised and complying with the Pharmacopœia and other recognised requirements.

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The medical profession is invited to ask for May & Baker's chemicals in original packages—obtainable from all the leading wholesale houses in Canada.

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MALTED MILK
IN TYPHOID FEVER

Pure, rich milk combined with an extract of malted grains, highly concentrated, partially pre-digested, palatable, and readily assimilated, makes **HORLICK'S Malted Milk** the physician's first choice when selecting a reliable nutriment in the treatment of Typhoid and other low fevers.

HORLICK'S Malted Milk has proved invaluable for many years past in the various diseases and conditions in which a complete, well-balanced diet is of vital importance.

A glassful, taken hot upon retiring, proves an excellent "Night Cap" for the physician, when tired out or "chilled through."

Samples sent, free and prepaid, to the profession, upon request.

HORLICK'S MALTED MILK CO.,
25 St. Peter Street, MONTREAL, Canada.

the red blood count and hemoglobin, with a corresponding raise in the resistance of the patient. Full clinical reports and technic for the cancelled stamp.

"The proof of the pudding is in the eating." The pudding can very easily be obtained on request, consisting of convincing clinical reports and full information with reference to Bannerman's Intravenous Solution. This Solution is absolutely harmless, the technic is very easy, and the results are conclusive. Write *now.*

MORE THAN A NUTRIENT

In cases where the patient remains obstinately too thin, in spite perhaps of the ingestion of large quantities of "nutritious diet," we are faced with an urgent problem, especially when we find that the food induces dyspepsia, and thus sets up a vicious circle which it is hard to break.

Preparations such as Cod Liver Oil are apt to be resented by the alimentary tract, and many which are not nauseous are too bland and insipid to induce an adequate digestive reaction. But, as Dr. Osler and many others have insisted, the key to the treatment of phthisis and many other diseases is the state of the alimentary canal, and we are frequently liable to find ourselves in an impasse when forced feeding causes the alimentary canal to be a barrier instead of a gateway.

In these circumstances a solution of the difficulty is found in the results of the new researches on Bovril. It has been shown that here we have a nutrient indeed something more than a nutrient, which promotes or compels the absorption of other foods.

DYSMENORRHEA AS A PRE-DISPOSING CAUSE OF NEUROSIS

Functional irregularities of the organs of generation, particularly if accompanied by pain, is possibly the greatest factor in the increasing number of women who consult the general practitioner presenting marked neurotic manifestations.

Where malformation is not present, successful treatment depends not only upon recognition of the cause, but the proper selection of a remedy for its removal.

To normalize pelvic circulation, and to relieve pain without resorting to an opiate is the object to be accomplished. Since the time of Sims, the sheet anchor of the general practitioner in the treatment of menstrual and obstetrical conditions has been Hayden's Viburnum Compound, a dependable and reliable product.

In neurotic conditions dependent upon menstrual irregularities, Hayden's Viburnum Compound not only exerts a calmative but a corrective influence.

Samples of H. V. C., with formula and literature, will be forwarded upon request to the New York Pharmaceutical Company, Bedford Springs, Bedford, Mass.

157.

The Canadian Journal of Medicine and Surgery

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Editorials

LOW PUERPERAL MORTALITY IN PRESCOTT AND RUSSELL COUNTY

We have been credibly informed, that the reporting of births by the French-Canadian population of Prescott and Russell County is, for reasons which cannot be fathomed, very insufficient. It is shown, by the records of 1911, that 12 per cent. of the mothers in that county were attended during their confinement by midwives or neighboring women, and that, afterwards, the husbands probably neglected to report these births to the Clerk of the Municipality. There might be, it is thought, a matter of 10 or 20 per cent. of the births occurring in that county, which are unreported.

Now the reported births in Prescott and Russell County, for 1911, were 1,767, while the deaths in that county, ascribed to the puerperal state, during the same year, were but 4. Hence, by applying Parke's

rule, i.e., multiplying the deaths due to the puerperal state by 1,000 and dividing the product by the births for the same year, we find that the total puerperal mortality of Prescott and Russell County, in 1911, was 2.26 per 1,000 parturient women. A very satisfactory showing, indeed, as this puerperal mortality rate should be reduced, if all the births occurring in that county had been reported. A very satisfactory showing, indeed, for another reason, as such a small mortality, from all the accidents of pregnancy or labor, would be considered creditable in the most carefully equipped lying-in hospital in this Province.

Curious to learn what the puerperal mortality rate might be in the only five other counties of Ontario, which, in 1911, gave a larger number of births than Prescott and Russell County, we have made, independently, the required calculations and report the results as follows: The births in Carleton (including Ottawa) in 1911 were 2,659, and the deaths ascribed to the puerperal state 21, which would show a puerperal rate for that county of 7.89 per 1,000 parturient women. In Middlesex County (including London), the births were 1,820, the puerperal deaths 14, showing a death rate of 7.69 per 1,000 parturient women. In Simcoe County, (including Collingwood, Barrie and Orillia), the births were 1,873, the puerperal deaths 15, with a death rate of 8 per 1,000 parturient women. In Wentworth County, (including Hamilton), the births were 2,663, the puerperal deaths 17, showing a death rate of 6.38 per 1,000 parturient women. In York County, (including Toronto) the

births were 11,743, the puerperal deaths 81, with a death rate of 6.89 per 1,000 parturient women.

It is astonishing, that so many women should have died in the puerperal state, in the counties of Ontario, where the Anglo-Saxons are in the ascendant, where wealth or comfort is diffused among a considerable number of the population, where primary education, at least, is not lacking, and where obstetricians are numerous. It is equally astonishing, that, in Prescott and Russell County, where the population is largely composed of French-Canadians, who are not generally wealthy or well educated, and among whom physicians are not numerous, the giving birth to children should prove fatal to so very few of the mothers. Can any one of our readers explain these problems? J. J. C.

A HIGH MORTALITY FROM PUERPERAL FEVER IN ONTARIO

From the annual report of the Registrar-General of Ontario, for the year 1911, we learn that the puerperal mortality for that year in the Province was as follows: Accidents of pregnancy, 63; puerperal hemorrhage, 28; other accidents of labor, 95; puerperal septicemia, 121; puerperal albuminuria and convulsions, 44; puerperal phlegmasia alba dolens, embolus, sudden death, 2; following child-birth, not otherwise defined, 2; total mortality from puerperal diseases, 355, or 6.2 per 1,000 parturient women. In

an editorial published in this journal April, 1912, we showed that the total puerperal mortality for 1910 was 5.08 per 1,000 parturient women. So that, on comparing the statistics of these two years, we find that the puerperal rate for 1911 is 1.12 above that of the rate for 1910. Referring more particularly to puerperal septicemia, which is supposed to be a preventable disease, why has it not been prevented? The number of decedents from puerperal septicemia was 121, a considerable increase over 82, the figure given for 1910. In 1910 the death rate for puerperal septicemia was 1.46 per 1,000 parturient women; in 1911 it rose to 2.11, which is by far the highest death rate from puerperal septicemia in Ontario, recorded during eleven years, beginning in 1900. During that period, the only mortality from puerperal septicemia, at all comparable with that of 1911, is the rate recorded for 1900, viz., 1.88.

The physicians of Ontario cannot be held responsible for the increase in the mortality from puerperal fever—as this is pre-eminently an age of antiseptic midwifery. Are the parturient women themselves blamable for their own undoing? We will not attempt to answer off-hand so very serious a question; but will simply throw a reflected light on it, by drawing on the 1911 vital statistics of Prescott and Russell County, where the annual birth rate was 26.6 per 1,000 population, where 12 per cent. of the parturient were unattended by physicians, where only one woman died from a disease following child-birth.

J. J. C.

RADIUM CURES EPITHELIOMA.

Clinical reports of cures of epithelioma and sarcoma, from the exhibition of radium, continue to appear frequently in the foreign medical journals. In the *Canadian Practitioner and Review,* Dec., 1912, Dr. Price-Brown, Toronto, reports a case in which the redevelopment of an epithelioma situated on the central portion of the inner aspect of the right alar and lateral cartilages of the nose was arrested by the application of radium. After removing the growth by excision, he successfully cauterized the granulations as they recurred. This was done a number of times at intervals varying from two days to a month. Finally, after a more extensive cauterization than usual, in which every vestige of disease tissue appeared to be destroyed, he requested Dr. W. H. B. Aikins to try Bromide of Radium, before the diseased granulations would have sufficient time to re-form.

Twenty milligrams of Bromide of Radium were applied externally over the seat of the disease, and a tube containing radium was also introduced into the patient's nostril on the affected side. This treatment was repeated several times. The amount of radium used, it appears, might be estimated at 1 centigram for twenty-four hours, the total number of applications being five. Dr. Price-Brown reports, that the use of radium in his case prevented the re-formation of malignant granulations and, at the present time, after an interval of nine months, the patient is still in excellent health.

The cessation of regrowth in this case is certainly wonderful; but the method of cure is not easily understood. Whether the application of radium would have had an equally good result in promoting absorption of the epithelioma is an open question. In reference to the means by which radium effects cures in malignant growth, the following quotation from L/1/12, 57, is instructive: "Some workers (Wickham, etc.) hold that radium has a specific action on cancer cells; others (Bashford, Mansell Moulin) say it is merely caustic. Others again (Deane Butcher) that it possibly acts as a vaccine. Domenici demonstrates that a sarcoma under radium, briefly speaking, becomes a fibroma. There is *obliteration of the blood vessels.* Radium has a remarkable power in arresting hemorrhage. This action on vascular tissues (as witness the manner in which nævi and angiomata are removed) explains its beneficent action on new growth." It may be, as Barcat and Domenici say, in reference to the action of radium on new growths, "that the neoplastic cells, instead of being stimulated, have their vitality lessened; their evolution ceases, and clumps of cells undergo necrobiosis—meanwhile, normal structures in and around the growth show increased vitality. With regard to the neoplastic cells, their decrease is probably due to alteration in the blood supply."

Radium is very rare and expensive; we notice in an advertisement which appears in *Paris Medical,* that a milligram of Bromide of Radium sells at Paris for 400 fcs. ($80.00), the cost of the platinum tube or

other holder being extra. It is satisfactory, therefore, to learn, from the writings of Rutherford, Hahn and Butcher, that a rival to radium, known as Meso-Thorium, was found in 1911. Meso-Thorium Bromide is the form in which Meso-Thorium is obtainable. It forms a white salt. Rutherford says: "As a large amount of Thorium is being continually separated for the mantle industry, the activity of the Meso-Thorium capable of separation is very great, and there seems to be no reason why an amount of Meso-Thorium equivalent in β and γ -ray activity to several grains of radium should not be produced annually." Referring to its therapeutic use, the *British Medical Journal* (1. /12, 1148) says, "The action of Meso-Thorium on malignant growths is just like radium. Cases of cancer of the tongue show improvement. Psoriasis plaques cured in one sitting, after X-rays had failed." Various salts of Meso-Thorium are to be found described in the first volume of the Extra Pharmacopeia of Martindale and Westcot, 15th edition, p. 768, to which our readers who desire full information on the subject are referred.

J. J. C.

BUTTERMILK IN CHRONIC INFANTILE DIARRHEA

Evidence, supplied by different authors, accumulates, showing the benefits which arise from the administration of buttermilk to nurslings, suffering from chronic diarrhea. In addition to the possession of

considerable therapeutic value in this disorder, buttermilk prevents wasting and loss of flesh. Stolte (Monatschr. t. XI. No. 2) shows that, when given in such cases, the buttermilk should not be mixed with other ingredients, as in the pap made by adding 15 grammes of wheaten flour and 60 grammes of sugar to 1 litre of buttermilk. In his opinion, the buttermilk given in such cases should be poor in hydrocarbons, and such hydrocarbons as it does contain should not ferment easily; besides, the buttermilk should contain enough fat, viz., 1.4 to 1.7 per cent. Schaps (Monatschr. für Kinderheil. t. XI. 1912, No. 4, p. 169) refers to a discussion, which took place at a regular meeting of the Medical Society of Berlin, Germany, May, 1911, after the reading of a paper, by Finkelstein and Meyer, on the treatment of the gastro-intestinal disorders of nurslings by the use of albuminous milk. Schaps himself had experimented with buttermilk, for two years, and had obtained very interesting results in the treatment of dyspeptic and diarrheal complaints, as well as in disorders of mal-assimilation, in which there was no great disturbance of the general health. Besides, he had successfully extended the employment of buttermilk to the feeding of a certain number of new-born infants, who had no intestinal complaint, but who appeared to be insufficiently developed, and he had likewise tried it, experimentally, in healthy infants. According to Schaps, buttermilk works wonders in one very well-marked intestinal disorder, follicular enteritis. By this term, he, probably, refers to chronic catarrhal enter-

itis, accompanied by ulceration of the solitary or agminate follicles of the intestine. In cases of this nature, Schaps does not advise the use of plain buttermilk; his formula for follicular enteritis is: Buttermilk, 1 litre; wheaten flour, 15 grammes; sugar, 60 grammes; sweetened cream, 100 grammes. When made after this formula, he claims, that the buttermilk pap has never failed to effect cures, in such cases of follicular enteritis, as had occurred in a practice of several years' duration.

J. J. C.

A HERO

Fate is such a strange riddle. The career of Dr. George Turner with its devotion to the most loathesome creatures on earth, the lepers, is a tragedy, whose climax ends in a single word—human sacrifice.

Life's honor roll contains the names of many scientists to whom much of brilliance and success were given, and in truth, of whom much was also required in service, but Dr. Turner's life story, as it reads, seems filled with almost the divine fire of zeal for earth's unfortunate sufferers. We quote at length from an exchange:

> The career of Dr. George Turner, who received recently a Knighthood, reveals another Father Damien.
>
> During twelve years in the Cape Colony as Medical Officer he rendered services to the cause of humanity which had never been adequately recognized except by a very few. He completed the system of inoculation against the rinderpest begun by Dr. Koch, and produced a curative preventive serum. Within a year after

By courtesy of *The American Ar*

his appointment to succeed Dr. Koch, rinderpest in the Cape Colony was absolutely stamped out. He saved the country millions of pounds.

During the Boer war, when the ravages of typhoid were appallingly severe, Dr. Turner, at Lord Roberts' request, undertook the supervision of the military hospitals and concentration camps and carried out valuable work at the constant risk of his life.

It was in the midst of these activities that Dr. Turner devoted himself first to the noblest work of his life. There were then at the leper asylum at Pretoria about fifty Dutch and forty native patients. He gave up all his spare time to work among the lepers, doing all he could to alleviate their lot and making tireless researches into the nature of the disease.

For three years he labored without extra pay of any sort. He saw the lepers early in the morning, again when he came home in the evening. Saturday and Sunday he gave to them.

In addition he made as many post-mortem examinations as possible. He was in his laboratory at dawn in order to have time for work. A visitor who watched Dr. Turner moving among the patients in the asylum bears witness to the passionate devotion with which he was regarded by all the inmates.

The saddest feature of these institutions was afforded by the leper children born of leper parents, for, in many cases, several members of a leper family were admitted together.

As the Medical Superintendent moved about the asylum, which was in the nature of a village, he was usually followed by a crowd of these unfortunate children, by whom he was adored.

On reaching the age limit Dr. Turner retired to pursue his studies into the bacteriological side of leprosy in the laboratories of this country. It has always been the ambition of his life to find some remedy for the disease. Suddenly, after several years' work in England, his eye was attracted by certain marks on his hand while shaving. He recognized them at once as the stamp of the disease, which he set himself to fight.

His diagnosis was independently confirmed by two specialists, and from that time on he worked unswervingly amid pain and beneath the shadow of the leper's lot.

For the last two years he has been living in seclusion, and,

says *The London Times,* it is curious that his heroic story escaped the notice of the public, for Sir George Turner was a man of eminence in his profession and one of the greatest living authorities on leprosy. Recently, however, his case came to the knowledge of his Majesty, on whose own initiative Dr. Turner's name was included in the New Year's honors.

"It is much to him now, we do not doubt, that his noble service has been honored by the King, but we venture to think that something is still owing him from the Dominion which he served," says *The Times.* "Not he himself can foretell the course of his disease, but the time may come (he has already lost the use of his left arm) when trained assistance will be in urgent need. We believe that the South African Government is considering the possibility of increasing the slender pension which is now his only support.

If he succeeds in finding a cure for the terrible plague leprosy, the cheap flash in the pan of a title conferred even by the King of England, will sink into insignificance beside the tribute of the world's heart of gratitude, the great world of men who pity but cannot help, and somehow the hurt he spared not himself in his eagerness to learn, will transform itself into the miracle of rapture of the conqueror, who like the Great Conqueror "endured the cross—for the joy that was set before Him." W. A. Y.

THE ACADEMY OF MEDICINE, TORONTO

In our editorial, dealing with the Academy of Medicine, Toronto, and which appeared in our January number, we made reference to the advisability of a President being always impersonal. Dr. R. A. Reeve assures us that, in doffing the robes of the presidential

office, he did not do so as the result of any personal feeling whatever, but simply because he could not subscribe to the general policy of the academy in the matter then before it. We would like to take this opportunity of expressing our unalloyed pleasure at the continued faithful attendance of Dr. R. A. Reeve at the majority of the section meetings this winter, where he is welcomed by one and all. W. A. Y.

THE MASSACRE OF THE TONSILS—A CASE OF OFFICIAL MEDICAL TYRANNY *

HAS "Medical Inspection" gone mad? Are we living under the grand old flag of England, or are we, forsooth, subjects of Russian rule?

Such are some of the questions that have been asked among the profession during the past few weeks and discussed by the Council of the Academy of Medicine at a recent meeting, owing to a recent conviction by the Magistrate of the Children's Court in this city of a respectable citizen for his refusal to allow his child to have her tonsils removed on the order ! ! of the Chief Medical Inspector of Public Schools.

David in his day with a few little pebbles and a sling made quite a disturbance, but it takes a modern Canadian little school child with a pair of tonsils and a parent who knows how to sing "Britons never never shall be slaves," and a tendency to assert the good old

* See article under this caption by Dr. J. M. MacKenzie of Johns Hopkins University, page 220, this issue.

axiom, "What we have, we'll hold," to make Toronto have a slight sensation.

We would like to again express our approval of the *Principle* of Medical Inspection. When properly conducted, it is bound to have a goodly effect on our juveniles and we are prepared to at all times support such a measure, but only when carried on *sanely*.

Perhaps the Commissioner of the Children's Court will give us the privilege of asking on what law he bases the conviction in question. We know of no By-law, Statute or Section of the Criminal Code that covers such a case; but, in order to make matters doubly sure, we have consulted the highest legal authority in the Province, who states in no uncertain manner that such a conviction is absolutely wrong in law, that such conviction can be promptly quashed, and that the Section of the Criminal Code, on which the conviction was made, does not justify any such drastic procedure and that the Magistrate so convicting leaves himself open to civil action. The Criminal Code provides that

"Every one who has charge of any other person unable by reason either of detention, age, sickness, insanity or any other cause to withdraw himself from such charge, and unable to provide himself with the necessaries of life, is, whether such charge is undertaken by him under any contract, or is imposed upon him by law, or by reason of his unlawful act, under a legal duty to supply that person with the necessaries of life, and is criminally responsible for omitting,

without lawful excuse, to perform such duty if the death of such person is caused, or if his life is endangered, or his health has been or is likely to be permanently injured by such omission." 55-56 V., c 29, s. 209.

How any intelligent man could construe that the enucleation of a child's tonsils comes under the heading "A necessary of life," we utterly fail to fathom. It is sheer nonsense to say that the health of the child is going to be endangered because his or her tonsils remain *in situ,* when, as in this case, the parent filed in court a certificate from a throat specialist stating that such an operation was quite unnecessary.

We are just as well aware as Dr. Struthers that there is a type of "mouth breather" where tonsillotomy is advisable and that there are cases of follicular tonsillitis with small pockets of pus formation where the general health of the child may be impaired if not attended to, but such cases are comparatively few and far between, and the case under discussion did not come under either of the above headings.

We have received many complaints of recent months about the unprofessional and unreasonable conduct on the part of the Department of Medical Inspection of Schools, and some cases are nothing short of amusing. One physician tells us of a little patient of tender years sent him with an order to have her entire set of temporary teeth promptly extracted. The mother consulted her dentist, who refused to do as ordered and told her to dare the school authorities to carry out their threat. Nothing further was done.

By courtesy of *The American Architect.*

WOMEN'S MEDICAL AND SURGICAL BUILDING, BRADFORD HOSPITAL, BRADFORD, PA.

Another physician on Bloor Street West telephoned about a case of a boy sent home with orders to have his tonsils removed or ——. The family physician at once sent a note to say that the operation was unnecessary. This time, *mirabile dictu,* a general practitioner's certificate was really and truly accepted! Why?—the tonsils were not there—they had been removed a year before!!

We could multiply case after case, but we hate to show up the absurdity of the Department of Medical Inspection any further.

What is going to become of the Old Family Physician, the confidante of the family for the past century and more, if Dr. Struthers is to be allowed to continue his present tactics? We venture to say that the day when the family physician is done away with, and God grant it may never dawn, the profession of medicine will lose its corner stone.

Far be it from us to interfere with justice or be a stumbling-block in the way of a *proper* system of medical inspection of schools, but not so imperfect a system as now exists. Had the parent recently convicted refused to allow his child to be vaccinated or had he contravened any clause of the Act covering contagious diseases, he would deserve punishment, but to threaten to throw a decent man into jail for an offence he did not commit is an unpardonable interference with personal liberty.

We understand that the Chief Medical Inspector of Schools takes the stand that the ordinary, everyday practitioner is not capable of giving an opinion

regarding a tonsil or adenoid case and he insists on the certificate of a specialist (and which he even then does not always accept, preferring his own opinion). With all due respect to our friends who practice "throat" and "nose" work, we entirely disagree with such a position, and consider there are but few general practitioners who are not equally capable with Dr. Struthers to say whether or not a case requires a certain line of treatment.

What is the procedure in Chicago in a case similar to the one recently in Court? In that city if a parent will not consent to his child being operated on, the visiting nurse calls upon him and tries to show him the error of his way. If he still refuses, nothing further is done, the State Legislature not considering it wise to force the knife, as is done in the Queen City of Western Canada.

We fear that in Canada, ere such can be done, the Chief Medical Inspector and his Henchmen may have to break down as many prejudices as the British Suffragettes have windows, in order to secure the right and privilege.

The medical profession of Toronto are of one mind in this connection, namely, that the Medical Inspection of Schools should be placed at once under the Medical Health Department. We look forward to the day when, through a systematic course of education among mothers in Canada, showing them just how children should be properly safeguarded as to health and sanitary surroundings, the medical inspection of children can be done away with, and the

mothers of our Dominion taught how they can bring healthy offspring into the world and rear them to grow into healthy men and healthy women.

Has the Chief Medical Inspector of Schools spent long enough in his youthful career in pondering the question of his fitness for a position that surely requires the patience of a Job, the wisdom of a Solomon, the tact of a Connaught, and the bearing of a Chesterfield? If not, perhaps he will observe that he has been shown into the wrong pew. Fortunately this world is an auditorium with equally good seating capacity and an obliging usher can always show one to another seat.

W. A. Y.

Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

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Original Contributions

ANOCI-ASSOCIATION—A NEW PRINCIPLE IN OPERATIVE SURGERY*

BY GEORGE W. CRILE, M.D., CLEVELAND, OHIO.

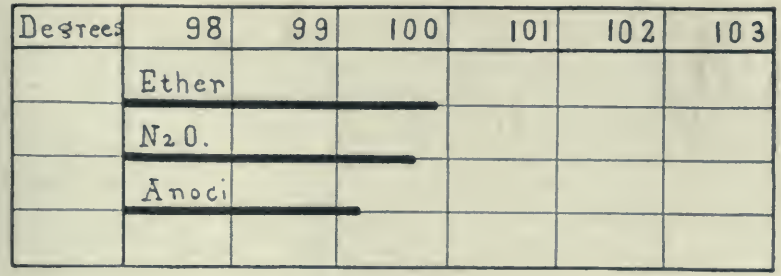
It is the purpose of this paper to offer evidence upon which a new principle of operative surgery is based. My argument assumes that man is a motor being, in the sense that Sherrington uses this phrase; it assumes that physical action and emotional activity are only expressions of motor stimulation; it assumes that there are in every active animal, and in man, stores of energy which, when released, is expressed in motion or emotion, and that, as these stores of energy are consumed, fatigue or exhaustion is produced. We shall present evidence to show that inhalation anesthesia does not wholly prevent the discharge of energy caused by an operation; that the discharge of energy of the brain cells is caused by emotional excitation, such as fear, just as readily as by physical injury, and also that the brain cells show physical changes corresponding to the exhaustion.

Turning first to the effect of physical injury, I have found that animals subjected to sufficient trauma under ether or under nitrous oxide anesthesia, present a state of low vitality or surgical shock, and that their brain cells show corresponding physical changes. Under ether, the animals required approximately three times as much trauma to produce an equal amount of depression of vitality, and equal physical changes in the brain cells. What is the cause of these changes in the brain cells, and the loss of vitality?

First of all, let us inquire as to whether or not inhalation anesthetics act on all parts of the brain alike.

If inhalation anesthetics acted on all parts of the brain alike,

* Paper read before the Ontario Medical Society, Toronto, May, 1912.



The Temperature
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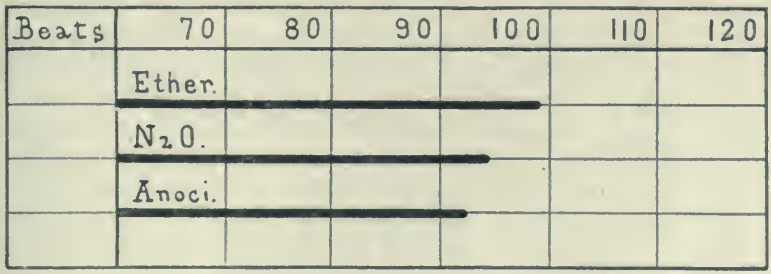

The Pulse
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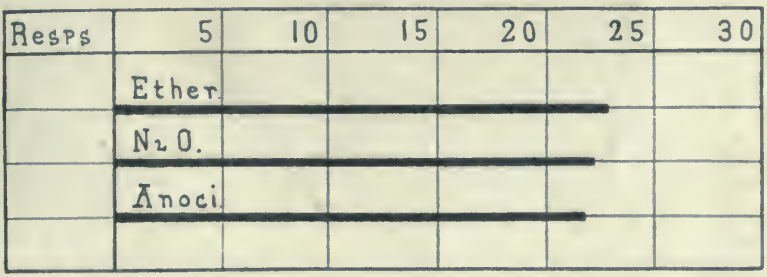

The Respiration
Each heavy line represents the average of the corresponding lines on the other charts (breast cases omitted).

SUMMARY FROM 250 CASES.

then the function of all of the brain cells would be suspended—that is to say, the patient would be dead. Beginning, then, with the premise that only a part of the brain is asleep under inhalation anesthesia, we may ask what is the effect on the awake brain cells? These cells respond to the physical injury of surgical operation by an effort to escape from the injury. The awake cells are trying to escape from the operating table and to escape from the surgeon, and these cells are just as wide awake, and are just as active as the cells of the brain in the normal wide-awake state. This statement is based on the following observations:

During a surgical operation, there is, in response to every incision, every pull of the retractors, indeed to every physical contact, a change in the pulse, the respiration, and the blood-pressure. These changes are a part of a physical act, an effort at escape from the injury. This is further shown by the fact that if the anesthesia is light, and the operator is rough, then the patient moves purposelessly on the operating table; but if the anesthesia is still lighter, the patient makes a physical defence of self-protection just the same as if there was no anesthesia, and as if he was not on an operating table. It is this that leads to the exhaustion of the operation and the physical changes in the brain cells.

The entire so-called subjective mind is unanesthetized; hence is fearfully punished in the course of operation.

Let us take still another viewpoint: Suppose that instead of the usual anesthesia, we gave our patient curare—giving at the same time artificial respiration by intratracheal insufflation. Such a patient would not be able to move a muscle, nor could he utter a sound. There would be absolute muscular relaxation and death-like quiet during the operation; but in spite of the fact that the muscular system would be wholly paralyzed, the mind will be perfectly clear, and the sense of pain normally keen.

Now, what would be the effect upon a human being if a prolonged surgical operation were performed under curare? What would be the state of the nervous system of such a patient when finally he emerged from the muscle-paralyzing influence of the curare, and could express his horrible experience in words? This is precisely the predicament of the subjective mind of our

daily operation. It is as completely unprotected under ether as under curare, and suffers just the same.

It has been shown that animals under curare and morphia, then subjected to trauma, succumb to shock-producing trauma as readily as under ether. With these facts we can understand by what influence a strong, robust patient, in the full tide of health, enters the operating room, and an hour later he may emerge broken and beaten and shattered, requiring months, perhaps years, to fully recover.

It is the same reason that, when run down by a railway train and mangled, man is shattered and broken; or if he has passed through a horrifying experience, such as that of a pistol pressed against his forehead in the night by a highwayman, or the witness of a murder, or of any of the nerve-shattering stimuli of life; these and all of these are motor stimuli, and whether they impair or whether they break the nervous system, their effect is just, the same as the effect of surgical operations.

There is an interesting fact concerning the psychic state of the patient at the time of operation. If the patient is in grave doubt as to whether or not he can survive the operation; if he lacks confidence in the hospital or in the surgeon, the patient has what, in physiology, is known as a low threshold; and if he goes under the anesthetic in this state, the effect of any physical injury will be augmented, and throughout the entire anesthesia the evidence of fear, in the respiration and the pulse, and in the way in which he reacts to the anesthetic and the trauma of operation, is manifested.

These patients take the operation poorly. It is as though the patient went under the operation with his motor set at high speed, and accordingly the energy of the body is consumed the more rapidly; hence the greater the exhaustion of shock.

Turning to the other side, we know that if the field of operation is temporarily disconnected from the brain by the use of a local anesthesia, then, no matter how severe, nor how extensive, nor yet how prolonged the physical injury in the zone thus blocked, no exhaustion follows, and no brain-cell changes are seen.

Turning now for a moment to a fundamental point, viz., what are the mechanisms that receive the injury impulses which

are transmitted to the brain and cause a discharge of nervous energy, leading to exhaustion, to altered personality, to nervousness and all the chain of evil consequences? These mechanisms are the nerve endings, the nerve fibres, and all of the nervous system. The nervous system acts as a unit, as a whole, and responds to but one stimulus at a time. Hence it is that if one part of the body is injured the entire nervous muscular system acts in a self-defensive manner.

Now, in the body, there has been implanted innumerable nerve receptors for the purpose of effecting adaptation to environment. Some of these receptors, such as those assisting in acquiring food, may be designated beneceptors, while other receptors have as their function the protection against harmful or nocuous contacts. These are *nociceptors*. The *nociceptors* are not distributed over every part of the body equally, but in those parts of the body which were most frequently, in the course of evolution, subjected to injury. The *nociceptors* are most numerous.

Hence, we find in the skin the nociceptors are most numerous in those parts most exposed to contact with the outer world, viz., the hands and the feet; the back, being less exposed, has fewer nociceptors. In the deep, protected parts of the body, there are few nociceptors. In the brain, which, through all time was protected by a skull, no nociceptors are found. The brain has no pain sense. One may probe the brain of an awake patient at will without even his knowledge. It therefore follows that the effect of an operation in this or that portion of the body is dependent upon the phylogenetic exposure, or the number of nocieeptors the part contains.

Physical injury of any sensitive area, that is an area having nociceptors, causes a discharge of nervous energy leading ultimately to exhaustion. The exhaustion is due to driving the motor mechanism. Equally well may exhaustion be produced by perceptions through the special senses—such as hearing or seeing a dangerous enemy.

Now the human machine is driven by a physical contact stimulation of the nociceptors implanted within the body, or it may be driven by perceptions through the special senses, whatever the cause may be, the stimulus is always through the awakening of associative memory; that is, all action is on the law of

association through memory, that is through *Phylogenetic Association.*

Harmful or noeuous associations are called *nociassociations.* If, then, an operation be so planned that all harmful or noeuous associations are prevented, this state is designated *Anoci-association,* that is to say without *nociassociations.* Practically applied, it means that a surgical operation performed on this principle must be so conducted that there is excluded from the brain all *nociassociation.*

This may be accomplished as follows: The surgeon must have so thoroughly prepared himself for his work, and so controlled his surgical surroundings, that he can truthfully say to his patient that his operation will be distinctly safer than his disease; that the operation will be so conducted as to be devoid of either painful or dramatic incident, and that he will have no unpleasant experience to reflect upon afterward. The patient should be given much personal consideration by the surgeon himself; and if no contra-indication exists, the patient should be given the benefit of a solacing dose of morphia, or morphia and scopolamine. The management of a patient up to the point of anesthesia should be by nurses, orderlies and physicians who are humanitarian psychologists. The anesthetist should be even more of a psychologist, and preferably a woman, as she is a more delicate recording machine. Anoci-association may be further promoted by the use of nitrous oxide, which is pleasant in comparison with suffocating ether, provided only that the anesthetist is an expert in the administration of this particular anesthetic. When under anesthesia, the brain may be entirely isolated from the field of operation by a careful infiltration of a solution of 1/400 novocaine just as completely as if no general anesthetic had been given; and during the operation a special consideration of accuracy and gentleness should be observed. In this manner an operation, however extensive, may be performed without materially driving the motor mechanism, hence without consuming nervous energy, hence a shockless operation. At the close the zone of operation is cut off for two days from communication with the brain by an injection of quinine and urea hydrochloride; thus the after-pains and post-operative nerve-exhausting stimulations are avoided.

What does this accomplish? It has finally brought us the shockless operation; it secures relaxation under nitrous oxide; it has reduced the mortality; it has largely diminished the operative morbidity and mortality; it has enabled patients to recover more readily from the disease for which the operation was performed; especially is this true in abdominal operations and operations for Graves' disease. It has taken from surgery much of its stigma of harshness, and to an almost incredible degree has it preserved the nervous system of the patient.

The tables show the clinical results attained:

By courtesy of *The American Architect.*

MEN'S MEDICAL AND SURGICAL BUILDING, BRADFORD HOSPITAL, BRADFORD, PA.

TREATMENT OF DIFFUSE SEPTIC PERITONITIS

BY HERBERT A. BRUCE, M.D., F.R.C.S.

Associate Professor of Clinical Surgery, University of Toronto; Surgeon to the Toronto General Hospital.

I SHOULD like to supplement the paper which appeared in the February number of this journal under the above title by a brief analysis of the cases of diffuse septic peritonitis which have come under my own observation during the last few years (1907 to 1912, inclusive). Of these cases, 282 were due to appendicitis, and the following tables show the gradual diminution in mortality during this period, and also the improvement in the results when operation is undertaken at an early stage:

Date.	No. of Cases.	Cures.	Deaths.	Mortality.
1907	33	24	9	27.2 per cent.
1908	42	32	10	22.8 per cent.
1909	40	33	7	17.5 per cent.
1910	43	37	6	14.0 per cent.
1911	59	54	7	11.4 per cent.
1912	65	59	6	9.2 per cent.
1907–1912	282	239	45	15.1 per cent.

In addition to these 282 appendicular cases, I have had eleven cases of peritonitis associated with perforation of the stomach, with six cures and five deaths, one fatal case of perforation of the ascending colon, two cases of perforation of the gall-bladder (both of which recovered), five cases of perforation of typhoid ulcer (with three recoveries and two deaths).

TABLE SHOWING THE IMPORTANCE OF EARLY OPERATION

Variety of Peritonitis.	No. of Cases.	Time Since Onset.	Cures.	Deaths.	Mortality.
Appendicular	19	Within 12 hours	19	..	..
"	76	Within 24 hours	73	3	3.9%
"	100	Within 48 hours	89	11	11.0%
"	32	Within 3 days	26	6	18.7%
"	28	Within 4 days	21	7	25.0%
"	14	5 to 6 days	9	5	35.8%
"	13	A week and more	4	9	79.0%
Perforated Gastric Ulcer	4	Within 12 hours	4	2	50.0%
"	7	Within 48 hours	3	3	50.0%
"	1	2 weeks	..	..	..
Perforation Ascend. Colon.	1	3 days	..	..	100.0%
Perforation Gall Bladder	2	3 and 12 hours	2	..	..
Typhoid Perforation	5	12 to 30 hours	3	2	40.0%

By courtesy of *The American Architect.*

STATE ASYLUM FOR THE CHRONIC INSANE, WERNERSVILLE, PA.

It will be seen from the foregoing that recovery took place in one case of perforation of the stomach, in which perforation had occurred two weeks before operation was undertaken. The reasons for this were: (1) That the perforation was in the anterior wall, immediately adjoining the lesser curvature, and (2) that the stomach was empty when perforation occurred, making it possible for adhesions to form before any of the contents of the stomach reached the peritoneal cavity. These adhesions, when separated, were found to surround an abscess containing about an ounce of pus. I am mentioning this case simply to show that one may have a perforation of the stomach without septic peritonitis.

SEPTICEMIC CEREBRO-SPINAL MENINGITIS

BY J. G. FITZGERALD, BERKELEY, CAL.
Associate Professor of Bacteriology, University of California.

THE purpose of this communication is to call attention to a pathological condition, the etiology of which, up to the present time, has not received general recognition.

For many years it has been believed that, amongst the forms of meningitis there was one type due to the bacillus of influenza. This is highly probable. In addition, however, to this influenzal type, there is another form of meningitis which presents an entirely different disease picture, and should not be confounded with influenzal meningitis. This is the so-called septicemic meningitis. This condition was first clearly proven to be a separate and distinct disease by Charles Cohen (I.) in 1909. It was shown by this investigator that the disease affects young children especially, and is characterized by signs of inflammation of the respiratory organs and subsequent meningeal involvement. The disease was further shown to be very fatal, the mortality rate being about ninety per cent. Cohen, in the cases first studied by him, was able to isolate a long, slender, Gram negative bacillus resembling in many respects the bacillus of influenza, but differing from this micro-organism in certain important particulars to be shown later.

Cerebro-spinal fluid, when withdrawn by lumbar puncture in these cases, is highly purulent, and contains the bacillus above mentioned, as does also the circulating blood, and the purulent exudates in certain of the serous cavities, such as the pleural and certain articular cavities. In a word, there is marked evidence of a general septicemia, and this is the significant feature of the disease.

Until Cohen's work on this condition appeared, there had been almost no exact bacteriological investigation of the cases of so-called influenzal meningitis, and, as a result of this, much confusion has arisen. As has already been mentioned, two disease processes have undoubtedly been confused because of inexact bacteriological and pathological investigation. A micro-organism was found when the cerebro-spinal fluid was examined. It corresponded in a general way with the influenza bacillus, and was so designated without further study. To Cohen, therefore,

credit is due for having first clearly recognized the differences in the disease picture produced by the bacillus of influenza of Pfeiffer and the bacillus of septicemic cerebro-spinal meningitis of Cohen.

When Cohen isolated the bacillus of septicemic cerebro-spinal meningitis he was able in laboratory animals (rabbits and guinea pigs) to produce a rapidly fatal septicemia. When the bacillus of influenza was injected into these animals, however, a toxemia was produced and never a septicemia. In animals, also, as in man, the bacillus of septicemic meningitis causes lesions in the serous cavities (pleural, peritoneal and articular). Attempts have been made by Delius and Kolle, and by Cantani, to vaccinate laboratory animals against the bacillus of influenza, but with no success. Cohen, however, has been able to protect laboratory animals against the bacillus of septicemic meningitis by means of vaccination with this micro-organism. Experiments both in preventive and curative serotherapy and laboratory animals have yielded excellent results with the bacillus of septicemic meningitis, but have been of very little value with the bacillus of influenza.

Cohen and Fitzgerald (2) have been able by means of the methods of serum diagnosis to show that the bacillus of influenza of Pfeiffer and the bacillus of septicemic meningitis are distinct species, although closely related. It was shown by this work that while the reactions of fixation and of conglutination were not thoroughly satisfactory for purposes of differentiation of such closely allied species, the reaction of agglutination, on the other hand, gave excellent results, and could be used as a routine procedure for this purpose. The work of Cohen and Fitzgerald has recently been repeated and confirmed by Odaira (3) working in Pfeiffer's laboratory.

The following culture medium has been suggested by Cohen for use in isolating the bacillus of septicemic meningitis; it is a modification of the medium first proposed by Bordet and Gengou. To liquid nutrient agar, cooled to 60 degrees C., is added one c.c. of defibrinated rabbit's blood for each five c.c of agar. These are thoroughly mixed and heated in a water bath at 80 degrees C. for three minutes, after which the medium is allowed to solidify in an inclined position. Using this culture medium, a very good growth of the septicemic meningitis bacillus can be obtained, even in the first generation.

Various observers have described this micro-organism of septicemic meningitis, and have given excellent descriptions of the disease process with which it is associated as the etiological agent. Unfortunately, however, nearly all these observers have concluded they were dealing with the bacillus of influenza, although a condition of septicemia existed. With reference to this point, it is well to mention that Pfeiffer himself, as well as Beck, Voges, Huber, Cantani, Jochmann, Kleinsberger, Weichselbaum and Kuhnan, has never been able to isolate the bacillus of influenza from the blood stream during the course of the disease, influenza. While in all experimental work on meningitis due to the bacillus of septicemic meningitis, the micro-organism has invariably been found in the blood. This is also true in almost all cases of the disease which have been thoroughly investigated.

It is the opinion of the writer that where septicemia accompanies meningitis and the causal agent is believed to be the bacillus of influenza, a thorough investigation will show that the bacillus of septicemic meningitis is actually the infecting micro-organism. This can be proven by means of the reaction of agglutination and by the inoculation of laboratory animals.

In these laboratory animals, the bacillus of septicemic meningitis will produce a fatal septicemia, whereas the influenza bacillus, if it does kill, will do so by a toxemia, and not a septicemia.

To conclude, then, the work of Cohen, of Cohen and Fitzgerald, and of Odaira, has shown that the bacillus of septicemic cerebro-spinal meningitis. which, up to the present, has been confused with the bacillus of influenza, is distinguishable from the latter because of the fact that it causes a purulent inflammation of the meninges, always accompanied by septicemia, and nearly always by lesions of certain of the serous cavities. The bacillus of septicemic meningitis is highly pathogenic for animals, killing them by a true septicemia. And, finally, the bacillus of septicemic meningitis can be distinguished from Pfeiffer's influenza bacillus by means of the reaction of agglutination.

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Society Proceedings

THE ACADEMY OF MEDICINE, TORONTO

THE different meetings of the Academy of Medicine, Toronto, for February, were splendidly attended.

The open meeting on February 4th was a great success, Vice-President H. J. Hamilton being in the chair. The meeting was addressed by Dr. Ramon Guiteras, of New York City, on the subject of "Kidney Operations." Dr. Guiteras showed about a hundred lantern slides, some of them being worth going a long way to see. The Academy is to be congratulated upon their choice of speakers for that evening.

The following comprised the programme of the different sections during the past month:

The Section of Ophthalmology and Oto-Laryngology met on Monday, February 3rd, at 8.30 o'clock.

1. Presentation of Cases.
2. Discussion of Cases.
3. Address: "Consideration of some points in reference to Electric Medical Apparatus and Electro-therapeutic Effects in Special and General Practice"—W. Franklin Coleman, Chicago (by invitation).

The Section of Pediatrics met on Thursday, February 6th, at 8.30 o'clock sharp, in the Hospital for Sick Children.

1. Clinical Cases:
    1. Convulsions in a boy of thirteen, followed by decompression—Allen Baines.
    2. An anomalous case of Tuberculous Meningitis—J. T. Fotheringham.
2. Albuminuria in diseased Tonsils—G. A. Campbell (by invitation).
3. Results of treatment with Salvarsan in late Congenital Syphilis—George S. Strathy and G. A. Campbell.

By courtesy of *The American Architect.*

SURGICAL BUILDING, NIAGARA FALLS MEMORIAL HOSPITAL.

The Section of Medicine met on Tuesday, February 11th, at 8.30 o'clock.

1. Report of a case of Lymphatic Leukemia—Paul L. Scott.
2. A case of Sub-acute Combined Degeneration of the Cord—Julian Loudon.
3. The Value of X-Rays in the diagnosis of Gastric Affections—F. W. Rolph (with lantern slides).
4. Report of a case of Gastric and Duodenal Ulceration with complications—S. Moore.
5. Demonstration of methods of estimating the Renal Function—Fletcher McPhedran.

The Section of Surgery met on Tuesday, February 18th, at 8.30 o'clock.

1. A case of Leontiasis Ossea—Norman Shenstone.
2. Recent experiences in operations for Ectopic Gestation—N. A. Powell.
3. A case of Subastragaloid Dislocation of the Foot—H. A. Beatty.
4. Osteomyelitis—B. Z. Milner.

The Section of Pathology met on Tuesday, February 25th, at 8.30 o'clock.

1. Autopsy specimens.
2. The influence of Salvarsan on the laboratory findings in Syphilis of the Nervous System—Robert Armour (by invitation).
3. Report of a case of Ectopia Cordis—J. T. A. Campbell (by invitation).

The Section of State Medicine met on Thursday, February 27th, at 8.30 o'clock.

1. The relation of the density of population in Toronto to Infant Mortality—Helen MacMurchy.
2. The relation of the density of population in England to Infant Mortality—S. J. Manchester, Registrar-General's Dept. (by invitation).

Selected Articles

PSYCHOSES OCCURRING IN TWINS *

BY PHILIP SMITH, M.D., NEW YORK.
Senior Assistant Physician, Manhattan State Hospital.

As a preface to this subject, it is justifiable to make a few remarks on the general subject of twins. The fecundation of more than a single ovum is not infrequent, numerous multiple births are recorded, and twin births have come under the observation of almost every physician. The most extensive record of multiple births is that of G. Veit, covering a series of 13,000,000 births in Prussia. According to his statistics, twins occur once in every eighty-eight births. This ratio, however, varies among different races and in different countries, being higher in some and lower in others. Thus, in Bohemia, the relation is one in sixty; in Ireland, one in sixty-four; in Scotland, one in eighty-nine; in France, one in 100; England, one in 116; New York and Philadelphia, one in 120.

The tendency to the occurrence of twins becomes greater in each successive pregnancy; multiparæ give birth to twins more often than primiparæ, but the latter are more likely to have twins the older they are when pregnant. In St. Petersburg the greatest number occurs during the seventh pregnancy in women who are between thirty and forty years of age; in Hungary the same observations have been made, but in other countries the number is greater in women over forty years of age.

The development of twins as a rule is from two ova, either from the same or opposite ovaries. They, however, may develop from a single ovum with a double germ, or a single germ may undergo complete fusion. Those developing from a single ovum are of the same sex; those from different ova may be of the same or opposite sex. According to Veit, both children were male in one-third of the cases; opposite sex in one third of the cases, and

* Read before the Ward's Island Psychological Society.

in a little less than one-third of female sex. English observers give different ratios; they find that both children are females far less frequently than both are of the male or of opposite sex. As a rule, there is some difference in the weight, and only in about 5 per cent. both children are of equal weight. In those of opposite sex the male is usually larger, but exceptions occur.

The occurrence of twins is always regarded as exceptional, and they are less perfect and more feebly organized than single children. They are less likely to survive, and a mortality of one in thirteen occurs. Usually they show marked physical similarity, and throughout life they have the same mental traits, tendencies, and inclinations. For this reason it is not remarkable that if in one should develop a psychosis, a similar condition might arise in the other. I will, therefore, ask your attention to the consideration of the psychoses of the following twins who were admitted to this hospital.

Jane K. and Annie M. were the children of Irish peasants, born in 1848, and second in line of birth in a family of four; one brother was about two years older, and another two years younger. The father died following an accident when a young man, and the mother remarried, but had no other children. She lived to an advanced age, but had considerable worry over her second husband, and late in life was said to have been demented; there were no other psychopathic tendencies as far as known.

While they were children they lived with a grandmother and received the usual education of children of their station in life; they learned dressmaking and millinery after leaving school. When about twenty-three years of age they came to America and were employed in a dry goods store. At the age of twenty-four years Annie married a clerk, and became the mother of a boy, who died in infancy, and two daughters, who grew to maturity. At the age of twenty-six years Jane married a groceryman, and became the mother of a boy, who died in infancy, and three daughters, who grew to maturity. They both led regular lives, and had no unusual worries during the early years of their marriages. They were of a quiet, retiring disposition, but Jane was inclined to worry more than her sister. Their physical resemblance was marked, and one was often mistaken for the other.

The husband of Jane fell ill in 1892, and she was told that

he would not live very long. She began to worry and became depressed, for she thought she and her children would be without a home. For about three months she slept poorly, and would walk the floor at night. On October 29, 1892, she was admitted to this hospital. She was in her forty-fifth year; her general nutrition was good; menopause had occurred. Her mood was one of depression, with persecutory and depressive ideas and auditory hallucinations. She said her neighbors had talked about her; they tried to poison her by stopping up the water pipe; she felt she had ruined her home and that she might be killed or something serious would happen to her. After her admission she was subject to episodes when she was noisy and disturbed. She called herself a murderess; she had destroyed the whole world, and all was lost. She became quiescent, but her hallucinations persisted and after a hospital residence of over two years she was discharged on December 17, 1894. When she returned home she was inactive and took no interest in her home or family. There was an increasing indifference, and, finally, on account of lack of personal cleanliness, she was recommitted on March 30, 1904. She was in her fifty-sixth year and in good physical condition. Her mental state was one of deterioration; there were no hallucinations, and she expressed no delusions, but said that perhaps God had punished her. She was filthy in habits, and smeared her person and the furniture with feces. She improved in her habits and became more cleanly some time after her admission; orientation and memory showed no marked defect. She lacked interest in affairs and was contented with her condition and surroundings. Her physical condition remained good, but on several occasions she had an attack of erysipelas. In April, 1911, signs of pulmonary tuberculosis developed; symptoms of cerebral hemorrhage and a left hemiplegia occurred, and she died on September 10, 1911, when in her sixty-fourth year, and eighteen years after the onset of her psychosis.

There were no unusual worries in the life of Annie M. until she was about forty-seven years old, and then her husband became unfaithful to her. She began to worry, took to drinking considerably, and about a year later separated from him and lived with her daughters, one of whom had married. She ceased drinking, except to take an occasional glass of beer. No active signs of mental derangement were observed until she was about

fifty-six years old. Her married daughter moved to New York city, and she was left alone most of the time in a flat in Hoboken. She became depressed, could not sleep, and was afraid to be left alone; she thought a curse was on her. She was brought to the home of her daughter in New York, but showed such an uneasy and depressed state that it was thought advisable to place her under treatment, and she was admitted to this hospital on May 20, 1904, eight weeks after the onset of acute mental symptoms.

She was in an anxious, uneasy, depressed state, moaned in a low tone, and had ideas of fear and impending danger. Orientation was good and memory showed no impairment, except that she could not recall dates very well. She had considerable appreciation of her condition. Physically, she was well nourished, the pupils reacted to light, but the reflexes in the upper extremities were diminished and the knee jerks were absent. The urine contained 5 per cent. of sugar, albumin, and casts.

Her mental condition showed no change for several months, and she worried about her children; she thought her daughter had gone astray, and one night imagined she heard someone say that she had been taken to prison. She also expressed the idea that all her relations were either dead or in prison, and that she had no home.

Gradual improvement occurred, the depression disappeared, she became interested in affairs about her, and on October 3, 1904, about four months after admission, she was discharged, recovered. Nothing abnormal was observed about her at home and her general health remained good. Diabetic gangrene and dropsy developed, and she was admitted to one of the city hospitals, where she died after a short period, in June, 1906, when fifty-eight years of age.

The psychoses in these patients developed after much family trouble, and the predominant feature was a depression, with uneasiness and anxiety. They were both in the involution period of life. In the one there was a long prodromal period, only a transitory hallucinosis, and her psychosis ended in recovery. In the other, who is described as more retiring and inclined to worry, an acute psychosis developed, hallucinations were prominent, and she passed into a condition of deterioration.

Ellen and Mary O. were of Irish parentage, born in 1873, and first in line of birth in a family of five girls and one boy. A

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STATE ASYLUM FOR THE CHRONIC INSANE, WERNERSVILLE, PA.

maternal uncle was insane, but nothing is known of the nature of his psychosis. Both parents were alcoholic, and in the mother developed a psychosis; she was admitted to this hospital, but later was discharged as improved. Her ideas were of a paranoid trend, directed against her husband and son.

As children they were delicate; they resembled each other, but Mary was less robust than her sister. Both had a simple and shallow disposition, but Ellen was considered to be less stable. They were religiously inclined, and at one time wanted to enter a convent, but were dissuaded from doing so. They graduated from public school, and then began to work in a store as salesgirls. Both remained unmarried.

Ellen O. began to worry because she was out of employment, and then passed into a state of depression, with suicidal tendencies. When admitted to this hospital, on November 14, 1895, she was twenty-two years of age, and her physical condition was good. She had ideas of a depressive trend; said her head felt like a blank; she had ruined her family by what she had said and done.

Later, she passed into an excited state, showed psychomotor unrest, and was flippant, flighty, and at times obscene and profane in her conversation. Again there were periods when she was quiet and did not speak. Two years after her admission she became quiescent, and gradual improvement took place. After a period of about three years in the hospital she was discharged, recovered, on August 29, 1898. She became excitable and difficult to control at home, and finally, on account of violent and assaultive tendencies, she was readmitted at the end of three months, on December 6, 1898.

She was in a maniacal condition, unreasonable in her demands, spoke in an abusive manner of her parents, wanted to get married. There were periods whe she was excited, and again she was careless, simple, and childish. Gradual improvement occurred and she was discharged the second time as recovered, after a period of about two and one-half years, on April 15, 1901.

She was sent to some relatives in the west, but became excited, returned to New York city, and was admitted for the third time on May 9, 1901, three weeks after her discharge. She again was in a maniacal state, and talked in a rambling and disconnected strain. Since her last admission she has been in the hospital

continually and usually is quiet and well conducted. At times there are episodes of short duration when she is talkative, flighty, and inclined to assault. She is simple in her manner, talks in a nervous way, shows poor judgment and no good insight into her condition. Her orientation is good, but she shows a defective memory for dates.

Mary O.'s health became impaired about a year after Ellen was admitted to this hospital, and, after fainting at her work one day, she was obliged to remain at home. She passed into a state of depression with suicidal tendencies and when in her twenty-fourth year she was admitted to this hospital on July 24, 1897.

She said she worried over her sister, wanted to come to her, wished to die. Later she became maniacal, was flippant, stubborn, and combative; she was subject to paroxysms of weeping, and became dull and stupid. Gradual improvement occurred, she became quiet and coherent in her conversation, but was simple in manner and lacked character. On April 2, 1901, after a hospital residence of about three and one-half years, she was discharged, recovered.

She resumed work and was efficient. In August, 1904, she had some sexual relations, and her menstruation failed to appear. She thought she was pregnant, became depressed, thought there was no use in living, and wanted to die; occasionally she heard voices at night. She was recommitted, September 8, 1904. Her mood was one of depression, and there was mental and motor retardation. When her menstruation was established her depression disappeared and three weeks after her admission she was discharged, as recovered. She resumed work and there were no abnormal mental symptoms. About three years later, following loss of employment, she again became depressed and committed suicide at her home by inhaling illuminating gas

The psychoses in these patients were of a recurrent nature with alternating periods of excitement and depression. Both manifested symptoms at approximately the same period of life; the one who was less stable has been a hospital resident almost continually up to the present time; the other was able to remain at home for a much longer period before her second admission, and after her discharge she remained well mentally for three years and then had another attack of depression and committed suicide.

Florence N. and Conrad E. are of Swedish parentage, born in

1883, the second set of twins, and last in line of birth of a family of six children. The father died of an infection following a burn; the mother died of diabetes. A brother and sister died of tuberculosis when of adult age. As far as known there is no insane heredity.

Florence was a delicate baby and until she was five years of age she was subject to convulsive seizures, usually dependent on some gastric disturbance. She was always nervous. Conrad was more robust, but when about fourteen years old he was thought to have tuberculosis; his health, however, improved and he developed normally. Both were of medium size; they resembled each other in features, and had similar inclinations. In school they were as bright as other children. Florence later became a milliner and Conrad a coppersmith. She married, but he remained single.

Florence N., when about eighteen years old, thought she was suffering from tuberculosis; she became depressed and imagined people were trying to harm her; she felt she was burning up and was to be "electrocuted." She remained at home, and at the end of six months apparently had recovered. She worked and, in 1909, was married and the following year became the mother of a child.

Her husband noticed that she was worried about her brother, and for about a year would drift in her conversation, and use stereotyped phrases. She became jealous, irritable, and finally so excited that she threw things at him. On September 6, 1911, she was admitted to this hospital when twenty-eight years of age. She was simple and superficial in her replies and smiled a great deal; any question which required mental concentration was answered incorrectly. Orientation and memory were good, and no delusions or hallucinations were present. Her physical condition showed good nutrition; there was a slight systolic murmur at the apex of the heart.

She has shown no mental improvement up to the present time and shows no interest in ordinary affairs. She makes loose statements and exhibits no insight into her condition; her mood is usually one of good humor, but at times she becomes irritable.

Conrad E. was always greatly attached to his mother, and when she died he began to drink, and became erratic and careless in his conduct. During a period of four years he worked irregu-

larly and would at times go away from home for months, and when he returned gave no explanation of where he had been. He was arrested and sent to the alcoholic ward of Bellevue Hospital, but there his mental condition was recognized and he was later admitted to this hospital, three months before his sister, on June 17, 1911.

He was mildly elated, smiled a great deal, and was flippant in his replies. He complained of hearing voices of a vile and obscene nature and thought they were caused in some way by Christian Science. Orientation and memory were unimpaired. Physical condition showed nothing of importance.

He has shown no improvement up to the present time; the hallucinations continue, but he does not seem disturbed by them; he smiles a great deal, and when talking about his ideas on Christian Science he becomes rambling and quite disconnected. He works in the hospital and is contented with his condition and surroundings.

One of these patients had a depression at the age of eighteen years, from which she apparently recovered; there were also ideas of a persecutory nature. At twenty-eight years she again showed evidence of mental derangement. The brother began to show symptoms of his psychosis when he was twenty-four years of age and hallucinations have been prominent in his case but have not been observed in the sister.

Both of them show looseness of thought and have lost interest in affairs. Since they have been under observation there has been no improvement, and the prognosis is considered ominous, as it is anticipated that a considerable degree of deterioration will occur.

Georgina and Sarah K.'s parents were Irish; the father had an apoplectic attack at the age of sixty-five years, the mother suffered from rheumatism and died at the age of fifty-six years; she was a woman of nervous temperament. They were born in New York City, in 1861, and are third in line of birth in a family of four children; the two eldest died in infancy. They were delicate children, but Georgina was always nervous and less robust than her sister. After graduating from public school she remained at home and did the housework, but Sarah went out to work at upholstering. They were of quiet disposition and regular church attendants. After the death of both parents they con-

tinued to keep house, but regularly received some financial assistance from the church which they attended. Neither married or had any love affair.

In 1905, Georgina had a long rheumatic attack and was confined to bed for several months; she began to complain of a "telephone in her ear" and of accusing voices. Noises in the house frightened her and she thought people on the street were calling her names. There was a cessation of these symptoms during a short period while she was away from the city, but they recurred when she returned. She was admitted to this hospital on November 8, 1906, when forty-five years of age. She stated that she began to be troubled by annoying voices about eighteen months previously, following an attack of rheumatism. During the examination she reacted to hallucinations. There was no defect in orientation or memory; she said she was nervous, but not insane.

Her nutrition was poor; she had a chronic catarrh of both ears and hearing was impaired; reflexes were exaggerated and a coarse general tremor was present; the arteries were moderately thickened. She has remained in the hospital since admission, and throughout this time there has been no cessation in the hallucinations. She complains of being annoyed and persecuted and occasionally has outbursts of irritability. Her orientation and memory remain good. She has no insight into her mental condition and her judgment defect is shown in that she wants to leave the hospital, but does not know where she will go or how she will support herself.

The sister Sarah is employed in the city, but has no permanent place of residence and whenever she visits her sister has some new plan for Georgina; she does not think she is insane and says she should not be detained here. She blames the church visitor for her commitment and thinks that the church should take up the cause of both herself and her sister. She now does not attend the same church, as she does not want to associate with such a hypocrite as the church visitor. Her ideas show a decided paranoid trend and she apparently is gradually approaching a definite psychosis.

The one sister in these twins has developed a psychosis of paranoid trend based on hallucinations of hearing. She was always less robust and her mental symptoms seem to have fol-

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OPERATING-ROOM IN THE BARNARD SKIN AND CANCER HOSPITAL, ST. LOUIS, MO.

lowed a prolonged attack of rheumatism. The second sister also has some paranoid ideas, but no hallucinations are present; both apparently have always been somewhat inferior; they always received aid and protection from others and never accomplished very much in life.

Mary D. and her sister's parents were Irish peasants and as far as known no member of the family was insane. They were fifth in line of birth in a family of five girls and one boy, and were born in Ireland in 1871. Their education was meagre and they always lived on a farm; their general health was good; they showed considerable religious fervor and the life of a nun appealed to them.

When twenty years of age, Mary came to America and was soon after followed by her sister. They were employed as domestics and after several years married. Mary became the mother of four children; her second pregnancy resulted in twins, but one died in infancy. She was not alcoholic, but drank coffee and tea to excess. After her marriage she continued at work, but she began to neglect her duties, became cranky, and devoted much time to religion. She began to have hallucinations, and thought the Lord talked to her; there was a gradual increase in her symptoms during a period of two months and, April 6, 1897, she was admitted to this hospital when twenty-six years of age.

Her mood was one of depression, and she usually was preoccupied with religious thoughts; when disturbed in any way she became violent and combative. She complained of having heard voices and knockings at the place where she was employed; she thought she would be poisoned and contaminated by those about her. She was pregnant, and seven months after admission gave birth to a full term child. Her mental condition gradually cleared up and on July 1, 1898, she was discharged and apparently made a complete recovery when she returned home. She became the mother of several children and showed no abnormal mental symptoms.

In 1903, she became the janitress of a house and was annoyed greatly by the tenants. She became moody, despondent, and cranky, and after an episode of excitement was arrested and later admitted to this hospital on October 9, 1903. At first she was irritable, suspicious, and showed religious pre-occupation. She gave an account, some time later, of an hallucinatory episode

when at home; she heard noises and talking, became frightened, and thought the house was haunted. At times she refused food, because it was forbidden by God and she thought she had sinned. She gradually cleared up mentally and was discharged, recovered, on January 16, 1904, after a hospital residence of about three months.

The deaths of an elder sister and of her twin sister occurred a short time after her return home, but she did not appear to be affected in an abnormal way; during the following summer she complained of headaches on several occasions. In the autumn she became very religious, went to church a great deal, and wanted to have masses said for her sisters. She became depressed, neglectful of her home, and finally refused to stay in the house. On November 9, 1904, she was admitted for the third time. At first she was dull and indifferent, but later she became variable in her mood; at times mildly elated and again self absorbed, irritable, and mildly sarcastic. She later stated that she had worried about her sisters; that she took considerable tea and coffee and was unable to sleep at night. She began to hear voices, thought spirits were in the room at night, and wanted to die.

Gradual improvement occurred, she became less irascible, and was discharged as recovered on January 7, 1905. Since this time there has been no recurrence of mental symptoms.

The psychosis was of a recurrent nature and hallucinations of a transitory nature were always present in the beginning of the attacks. At the time of her first admission she was pregnant; her second followed unusual annoyances when she was a janitress, and the third followed the death of her sister. She was always an excessive tea and coffee drinker; at the onset of each attack her sleep was poor, and she stated she would take large amounts of those beverages; the attacks, therefore, may bear some relation to a toxic etiology. In the sister no psychosis developed; she showed nothing abnormal, but was always very religious up to the time of her death.

Charles W. C. was of Irish parentage, born in New York city, and seventh in line of birth in a family of eleven children. He was the survivor of male twins, the other having died in infancy. His father died in middle life, but his mother was living and well.

From early childhood the mother noticed that he was not like the other children, but was quiet and seclusive; he learned well at school and later became an efficient printer. As far as known he had no bad habits.

The first thing that attracted attention was that he remained at home and did not visit his other brothers and sisters in the city. At the end of six months he had a sudden episode of excitement during the night; he had hallucinations accompanied with fear, and thought he was to be poisoned. For two weeks he remained more or less excited and then he became mute and peculiar mannerisms like puffing out his cheeks began to develop. On February 1, 1906, he was admitted to this hospital, when twenty-six years of age. He was resistive and exhibited mannerisms. At no time while under observation was he sufficiently accessible to determine his mental content. The greater part of the time he was mute and in a catatonic state. Muscular stiffness and constrained attitudes were prominent features. He usually was tube fed and his nutrition finally became so reduced that he passed into a state of exhaustion, and died after a hospital residence of almost three years, on December 11, 1908.

In reviewing these cases it appears that the number of twins in whom psychoses develop is small as compared with the frequency of their occurrence; females are more frequently affected than males. There is a similarity in the makeup, but some disproportion is present and one shows a greater weakness than the other. The psychosis develops earlier in the weaker one and shows a greater tendency to recurrence, or to end in deterioration. In most of the cases when a psychosis developed in one, only a comparatively short interval elapsed before the other either evidenced the prodromes or a psychosis developed with similar symptoms.

Finally, it is observed that the single children of the family apparently had a stronger makeup, for even though there was a marked psychopathic heredity in two of the mothers, only in the twins of the family did a psychosis develop.—*New York Medical Journal.*

THE PROBLEMS OF OBSTETRICAL PRACTICE *

By W. W. Chipman, B.A., M.D., F.R.C.S. (Edin.), Montreal.
Professor of Obstetrics and Gynecology, McGill University.

It was in 1850 that White initiated the clinical teaching of obstetrics. Preceding this time there had been no practical instruction in this department of medicine, and the teaching of obstetrics had run a poor third to that of general medicine and surgery.

Parturition is unquestionably a physiological process, but even so far too frequently a calamity for the mother. Even at the present time 500 women die annually of childbirth in Canada and the New England States, while some 5,000 more are permanently disabled. The cause may justly be considered to lie in the insufficient teaching of practical obstetrics. Out of 120 medical schools investigated, only one-half were found to offer anything like adequate instruction in obstetrics, and in only one-sixth of these was proficient clinical teaching afforded. Only too frequently the practical side of the obstetrical teaching consists merely in the observation at a distance of a very few cases of normal delivery. Under such a curriculum the student may become a trained observer of obstetrics, but scarcely a practical obstetrician. Statistics may be brought to show that in the United States it is safer for a woman to have her abdomen opened surgically than to bear a child. Only too often the glitter of surgery preoccupies the student's mind greatly to the damage of his consideration of obstetrics. A recent article in the *Journal of the American Medical Association* upon the conduct of normal labor, while bad in itself, did much good through the wholesome and widespread indignation that it aroused, and the communications it brought out exposing its errors in teaching.

The course in obstetrics offered the student at the McGill University emphasizes first of all the practical management of normal labor or spontaneous parturition. The proper management of normal labor, it is taught, should begin long before the onset of the event itself. In cases where the obstetrician's ser-

* Summary of a lecture before the Third Clinical Congress of Surgery of North America, New York, November 14, 1912.

vices are engaged in advance, the patient should be seen six weeks before the time of her expected confinement. A most careful examination of every pregnant woman should be an established routine on the part of the physician responsible. This is particularly necessary in primipare, in whose cases the omission of a painstaking ante-partum examination is nothing other than a gross sin. The presentation, size, and position of the child should be determined; careful external pelvic measurements should be made, particularly of the external conjugate and of the transverse diameter of the outlet. If these measurements are satisfactory, no internal examination of the patient need be made at this time. Certain rules may now be laid down for the guidance of the attendant: 1. The fetal head should be well settled into the pelvic brim. 2. If a breech presentation is discovered, let it alone. 3. Remember the importance of regular routine examination of the urine, particularly as to specific gravity and albumin. In the conduct of the labor itself a sterile gown and sterile rubber gloves are particularly important. The conduct of the first and second stages of labor will not now be considered.

The proper conduct of the third stage of labor is especially important. After the delivery of the child the uterus should be given ample time to recover itself, thirty minutes at least being permitted. There should be no kneading. The hand should be kept upon the fundus merely that its condition may be continuously observed. Extrusion of the placenta is a physiological process, accomplished by the formation of the retroplacental hematoma. When the placenta has become separated, the fundus rises somewhat. At this time the Crede method of delivery of the placenta may be employed; at the same time the woman's assistance is enlisted by directing her to bear down. A retained placenta is common, a truly adherent placenta is rare. Throughout the entire labor two ideals cannot be too rigidly held in mind, or too emphatically advocated: 1, Absolute surgical cleanliness, and, 2, masterful inactivity on the part of the attendant. Upon this basis the safe delivery of eighty per cent. of all cases is assured, and the final verdict will be "well done."

There is no more perplexing problem in obstetrical practice than the unengaged fetal head at the end of the first stage of labor, with intact or very recently ruptured membranes. In the primipara the head is usually found well engaged in the pelvic

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WARD IN THE BARNARD SKIN AND CANCER HOSPITAL, ST. LOUIS, MO.

inlet at the time that the patient goes into labor. If it is not so, there is present, as a rule, no little disproportion between the size of the head and the pelvic capacity. Where this disproportion is well marked, delivery of a living child by way of the normal birth canal is impossible, and the indication for Cesarean section is clear. When slight, one of the most difficult problems of obstetrics is presented, which demands the application of the utmost judgment and skill in the possession of the attendant. As a hypothetical case, a patient may be considered having a true conjugate of nine cm., and a fetus whose biparietal diameter measures nine, 9.1, or 9.2 cm. Here the importance of prophylaxis comes prominently into view, for if the eighth month visit had been made, the condition of the mother's pelvis would have been discovered, and the problem solved by proper treatment before the onset of labor. When this visit has not been made, the problem unexpectedly presenting itself to the obstetrician at the end of the first stage of labor, how shall he proceed?

First, he must determine as accurately as possible the exact degree of disproportion existing between pelvis and head, and upon this information formulate his plan of treatment. Here method and an absolutely clean technique are, as always, essential. The catheter should be used, the bladder emptied, and the condition of the fetal heart inquired into. Under anesthesia and with surgical cleanliness, the diagonal conjugate must be estimated, either upon the fingers alone or by means of the pelvimeter of Hirst. In this case it will be found to measure eleven cm. and it will not matter particularly whether the pelvis is of the simple flat or the justominor variety. The pelvis having been examined, the size of the child, particularly of its head, should be estimated. The fundus will be found to measure thirty-five cm. above the symphysis pubis, indicating an average full term child. The size and lie of the child's head must next be noted and the attempt made to measure the head itself through the abdominal wall by the method of Ellice McDonald. Finally the relationship of head to pelvic inlet should be ascertained by the employment of Muller's method of impression, or that of Munro Kerr. With one hand within the vagina and the other upon the abdominal wall, the fetal head is pressed downward and backward into the superior strait. Normally, the head may be made to enter the inlet by this method; if not, the degree of relative disproportion

may be determined in this way. In the proposed patient, the head may be made to engage in the pelvic inlet with but little overlap, and only moulding is necessary to permit its passage onward. The patient should be left alone. In eighty per cent. of such cases, with strong uterine contractions, sufficient moulding will take place, and spontaneous delivery follow. The patient may be placed in the Walcher position as long as she will tolerate it, thus increasing the true conjugate one cm. Pressure may be made on the abdominal wall, and upon the head itself, downward and backward. The genupectoral position may be tried. Do not hurry, do not turn. Version should be left to the expert, for very fine distinctions make this possible, or impossible, and an error in calculation means the death of the child.

Both mother and child should be watched closely for four hours, and if progress has not been made by this time, the axis traction forceps should be applied, with great care, and but moderate traction made. If then the head does not advance, the child's life should be discarded in the interest of the mother's, and craniotomy performed. This unfortunate outcome may take place once, but should never occur a second time in the same woman and under the same doctor's care.—*New York Medical Journal.*

CARCINOMA OF THE UTERUS *

BY THOMAS S. CULLEN, M.D., BALTIMORE.
Clinical Professor of Gynecology, Johns Hopkins University.

At the present time cancer of the body of the uterus is being treated with fair success. Two-thirds of the patients with this condition are cured by hysterectomy, the microscope contributing to our success by making a positive diagnosis where the tissue removed by curettement is sectioned and examined. On the other hand, cancer of the uterine cervix presents a different aspect, and the results prevailing to-day are far from gratifying to the surgeon, if not actually disheartening. The number of cases of cancer of the cervix coming to the operating table is very small when compared to the number of deaths attributable to this disease. The exact percentage of operability is difficult to determine in this country. Certain it is, however, that the vast majority of these patients present themselves at the hospital only when the disease has advanced far beyond the possibility of operative cure. Many cases are seen in the out patient departments, while but very few of these find their way to the operating table. When the uterus itself is mobile or there is but slight infiltration of one broad ligament, operation offers some hope of cure. But a fixed uterus, accompanied by extensive involvement at one or both sides, represents a growth well beyond the possibility of surgical eradication. Just how extensive the growth may be and whether or not operation is feasible, can be determined only by examination under an anesthetic, an opportunity that should be afforded every woman the victim of cervical cancer.

The operation itself should never be performed by the vaginal route, except possibly in the very obese individual. In cases where the actual cautery has been thoroughly applied to the cervical growth, the uterus will be found more free upon examination one week later, while the growth itself will seem to have shrunken. Whatever apparent advantage may have been gained in this way is more than counterbalanced by the fact that these patients take a second anesthetic very badly indeed, and for this

* Summary of a lecture before the Third Clinical Congress of Surgery of North America, Academy of Music, Brooklyn, New York, November 14, 1912.

reason the risk of the abdominal portion of the operation is greatly increased. It is customary at the present time to do both the cervical cauterization and the laparotomy under the same period of anesthesia. The cervix is cauterized, an iodine pack introduced, and the abdominal operation immediately proceeded with.

Some details are worthy of particular attention, as aiding in the reduction of the mortality. A free incision, permitting a good exposure, should be made. Where the abdominal wall is thick, a wedge of fat may be excised. An electrically heated table will combat the tendency to shock, thus preserving the patient's general condition to the utmost. The best illumination obtainable, as by the Zeiss light, is essential. Such advantages as these aid the operator in avoiding shock and hemorrhage, and give the patient the best chance of surviving an exhausting operation. The Trendelenburg position is not used until after the ureters have been dissected out. In the thin individual no great difficulty may be met with until the vaginal veins are encountered. The vagina is dissected well down to the pelvic floor, ligated at its lateral margins, and divided with or without the use of the Wertheim clamps.

The pelvic glands may or may not be removed. If the patient's condition is good, it is preferable to remove them. The fact should be borne in mind that all enlarged glands are not necessarily cancerous, but may be enlarged because of septic absorption. The vaginal mucosa is united with the vesical peritoneum in front and with the rectal peritoneum behind, the pelvic peritoneum brought together, and the abdominal wound closed. A gauze drain may be used in the vagina, extending to the region of the broad ligaments. In some cases the abdominal wound may be drained, and the patient placed in the Fowler position. The duration of the operation will vary. In the early cases the operation is less difficult, in the more advanced more so. The patient's vitality is often at low ebb, due to prolonged suppuration and recurrent hemorrhages, and after tolerating operation for an hour, or an hour and a half, the patient collapses. Ordinarily the Wertheim operation is one of the most difficult in surgery. The patient should be stimulated early, before the alarming symptoms of collapse supervene.

At a recent meeting of the American Gynecological Associa-

tion, an attempt was made to establish American statistics in regard to the results of treatment of cancer of the uterus by surgeons in this country, which brought to our attention two notable facts. First, that there was little in this country in the way of statistics relative to the treatment of cancer of the cervix; second, that almost universally the women coming under treatment for cancer of the uterus did not appear until the disease had advanced beyond the possibility of operative cure. Of seventy patients with cancer of the cervix operated upon at the Johns Hopkins Hospital by Doctor Kelly and his assistants, and reported upon five years after operation, it was found that twenty had died primarily, nine had disappeared, two had died of pneumonia, fourteen were then free of recurrence, the remainder having died in the interval. Of forty-eight cases done by the writer, thirteen patients are free of recurrence after five years. The prognosis is uncertain even after operation. As a rule the glandular type of cancer tends to recur early, but frequently cases that might be regarded as cured judging from the operation alone show early recurrence, while others thought to be less favorable remain free for considerable time.

As to temporary relief by means of an incomplete operation, authorities differ, some holding that the palliative operation is a menace to the patient. When the offensive discharge, the recurrent hemorrhages, the occurrence of fistule, and the onset of pressure symptoms are considered, it seems only right to give these patients every opportunity of even temporary relief, even at the risk of hastening the development of the growth. The excellent German statistics are favored by the fact that the German women tend less to obesity than do the women in this country, thus permitting a better operative exposure. The education of the public in Germany in regard to cancer is well in advance of that in our country, the patients coming under treatment earlier in the disease. In the German clinics fifteen operations for cancer of the cervix may be done in a single month by a single operator, who so becomes particularly skillful in the performance of the operation itself. This is an important factor in the reduction of the mortality. In the United States steps should immediately be taken to instruct the people in regard to cancer of the uterus.

The laity has become well informed as to appendicitis and tuberculosis, and could be similarly taught the earliest symptoms

of cancer of the uterus. Instruction as to what cancer is, the earliest symptoms by which its presence may be suspected, and the fact that when taken early it may be cured, would all tend to bring these patients under treatment, while the possibility of eradicating the disease still exists. The popular fear of cancer, now so generally observed, would greatly facilitate such a campaign of publicity. Furthermore, the profession should follow and study these cases with the greatest care. On such measures as these depend our progress and success.—*New York Medical Journal.*

MASSACRE OF THE TONSILS

BY JOHN M. MACKENZIE, M.D.
Professor of Laryngology, Johns Hopkins University, Baltimore.

DURING the past few years I have been repeatedly urged by medical friends to give some public utterance by way of formal protest against the indiscriminate and wholesale destruction and removal of the tonsils, which, far above all others, is the chief and most glaring abuse in the laryngology of the present day. They have been good enough to say that a word might not be amiss from one who has been through the dust and heat of the conflict that has raged round this and other fancies in surgical laryngology which have arisen and fallen during the quarter of a century that has just passed away.

One of these friends, a distinguished general surgeon of wide experience, large practice and exceptionally high professional skill, in insisting that I say something on the subject, gave me as his deliberate opinion that of all the surgical insanities within his recollection, this onslaught on the tonsils was the worst, not excepting the operation on the appendix. And, indeed, when I look back through an experience of over thirty years, in which I have seen theory after theory, for some of which I have been partially, if not wholly, responsible myself, come and go, materialize and dissolve, I feel that, notwithstanding the fact that I approach the subject with reluctance, with diffidence, with hesitancy—with even timidity, and fully mindful of the truth that we are all liable to error, even the youngest of us, and that nowadays in some quarters apparently age and experience count for nothing, I feel I may be pardoned for saying a few words in what I consider to be the interest of the public health, and, therefore, of the public safety.

Let me at the outset be not misunderstood. It is not my object to stir up strife, to impute unworthy motives to anyone, or to arrogate to myself any superior wisdom in the surgical management of tonsil disease.

Nor do I wish to shift to other shoulders all the blame. I, too, in my earlier days, have fallen by the way. Indeed, it was once

facetiously said that the street in front of my office was paved with the turbinated bones of my victims.

Many years ago Austin Flint was conducting an examination in physiology at the Bellevue Hospital Medical School in New York. Among the students who came up for graduation was a bright young fellow to whom Flint propounded the following conundrum: "What is the function of the spleen?" And the lad replied that the function of the spleen was to enlarge in malarial fever. To the next question: "What is the function of the tonsil?" the boy declared that the mission of the tonsil was to swell and suppurate in quinsy. "That will do," said Flint, "you have passed a perfect examination, for you know as much about the subject as I do myself." . . . I remember, a long time ago, in a discussion on hemorrhage after tonsillotomy before a New York society, a distinguished laryngologist made the statement that he had removed without accident many thousands (I have forgotten the exact number) of tonsils—to which declaration an inquisitive, incredulous individual present, with a mathematical turn of mind, said he had made a calculation which showed that in order to have removed that many tonsils within the limit of an ordinary lifetime the operator would have to average a bushel a day.

But never in the history of medicine has the lust for operation on the tonsils been as passionate as it is at the present time. It is not simply the surgical thirst from which we have all suffered in our early days, just as at a still earlier period we suffered from the measles; it is a mania, a madness, an obsession. It has infected not only the general profession, but also the laity. A leading laryngologist in one of our largest cities came to me with the humiliating confession that, although holding hostile views against its performance, he had been forced to do a tonsillectomy in every case in order to satisfy the popular craze and to save his practice from destruction.

To-day the laity, with or without medical advice, insist on entire removal of the tonsil for almost every conceivable infirmity. If I had time to do so, I could tell you some, if they were not so serious, amusing stories in this connection.

Much wild and incontinent talk, for which their teachers are sometimes largely to blame, has poisoned the minds of the

younger generation of operators, and thrown the public into hysteria. Tonsillectomy, for example, is held out to them, not only as cure for, but as an absolute prophylactic against rheumatism and heart disease. They are told that with the disappearance of the tonsil in man these diseases will cease to exist. Parents bring nowadays their perfectly sound children to the laryngologist for tonsil removal in order to head off these affections. Tonsillectomy is recommended as a curative during the agony of acute articular rheumatism.

But the origin of the latter disease has recently been traced to an infection of the nasal mucosa following operation. To-morrow it will come from somewhere else. Those of us who are old enough to remember will recall the story of chorea. Years ago we found the cause of this affection in the nasal passages. When this view, after the usual struggle, had to be abandoned, it was suddenly discovered that the eye was the portal of entrance. To-day it has been caught in the tonsil. If we exercise a little patience it will turn up soon in some other organ.

In considering the question of operation on the tonsils, and especially complete removal, we must face the following facts:

1. The functions of the tonsils are, in the present state of our knowledge unknown . . . .

2. Whatever its functions may be, and the production of leucocytes is undoubtedly one of them, the tonsil is not, as is generally believed and taught, a lymphatic gland.

The general ignorance of this fact has led to the useless sacrifice of thousands of tonsils, on the fallacious assumption that their functional activity may easily be replaced by the myriads of other lymphatic glands in the body. The physiological integrity of the tonsil is of the utmost importance in infant and child life.

PERSONALS

Dr. Norman is expected back in Toronto during the next month or so.

Dr. H. T. Machell retires as chief of the medical service at the Hospital for Sick Children next May, to be succeeded by Dr. Allen Baines.

We are glad to announce that Dr. W. J. Wilson has recovered from his recent illness. The doctor spent a short time at Preston Springs during January.

Dr. W. K. Wilson, son of Dr. W. J. Wilson, of College Street, has been appointed on the staff of the Western Hospital Nose and Throat Department.

Mr. Irving Cameron and Dr. B. Z. Milner retire from the surgical service at the Hospital for Sick Children, Toronto, on May 1st next. They will be succeeded by Dr. Clarence Starr and Dr. W. E. Gallie.

Dr. W. H. B. Aikins entertained a large number of the profession at dinner at the York Club on the evening of February 4th in honor of Dr. Ramon Guiteras, who was staying with Dr. J. M. Cotton on Bloor Street East.

Dr. Alex. Primrose, Dr. Fred. Starr, and Dr. Stanley Ryerson have resigned from the staff of the Hospital for Sick Children in view of the ruling that no surgeon who is identified with one hospital shall hold office on the staff of a second.

An arrangement has been concluded by the University of Toronto with the new Toronto Western Hospital, whereby it is placed on the same footing as a Teaching Institution with the Toronto General and St. Michael's hospitals. The following members of the staff of Toronto Western Hospital are now Associate Professors in the Medical Faculty of the University: Gynecology, Dr. S. M. Hay; Clinical Surgery, Dr. A. A. Macdonald; Clinical Medicine, Dr. John Ferguson; Laryngology and Otology, Dr. Price-Brown.

News of the Month

CONGRATULATIONS TO DR. HARLEY SMITH

The Italian Government has recognized the faithful services rendered to its people in Ontario during the past eleven years by granting to its representative, Dr. Harley Smith, the rare honor of Chevalier of the Order of the Crown of Italy. Dr. Smith studied Italian at the University of Toronto under Dr. Oldright and Prof. Keys, and graduated in the department of modern languages, with a gold medal. T. C. Robinette, K.C., taking a double course, ran him a close race, and won the silver medal. When Deputy Magistrate Kingsford resigned the Consular agency in 1901, the leading Italian citizens requested the Minister of Foreign Affairs to appoint Dr. Smith, and he has occupied the post ever since. He possesses the entire confidence and respect of the Italian community in this city and Province. Dr. Smith is also Honorary Secretary of the Academy of Medicine and Vice-President of the Children's Aid Society.

We take pleasure in tendering our congratulations to an esteemed member of the profession.

A NEW INSTITUTE OF MASSAGE

Mr. W. R. M. Korn desires to announce to the profession in Toronto and its vicinity that he has opened, at No. 329 College Street, Toronto, an Institute for the administration of massage in all its branches. Mr. Korn received his training abroad, and is an expert in Massage and Swedish Movements. He is anxious to get into touch with the profession, wishing it understood that he acts *in conjunction with Physicians*, and at their sole behest. His charges are strictly moderate, consistent with efficient service.

The Physician's Library

BOOK REVIEWS

A Practical Medical Dictionary of words used in medicine, with their derivation and pronunciation, including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance and other special terms; Anatomical tables of the titles in general use, and those sanctioned by the Basle Anatomical Convention; Pharmaceutical preparations, official in the United States and British Pharmacopeias, and contained in the National Formulary; Chemical and Therapeutical information as to Mineral Springs in America and Europe, and comprehensive lists of synonyms. By Thomas Lathrop Stedman, A.M., M.D., Editor of "*Twentieth Century Practice of Medicine*," Editor of the "*Medical Record*." Second revised edition. Illustrated. New York: William Wood and Company. 1912.

As we have frequently stated in these pages before, it must be a source of the greatest satisfaction to an author to have, in the matter of a few months, to sit down and revise his volume so recently off press. It but goes to show that his efforts have met with the appreciation of his confreres. Such is the case with the second edition of Stedman's Medical Dictionary, published less than two years ago. It now appears in revised form, with over two thousand new titles and subtitles, and everything brought down to date.

A Textbook of Gynecology. By William S. Gardner, M.D., Professor of Gynecology, College of Physicians and Surgeons, Baltimore. New York and London: D. Appleton & Co.

This little volume of 271 pages and 138 illustrations has been written more especially for the over-worked medical student, especially the American student, and is a fair condensation of this important subject. A feature of the book to be

commended is a number of illustrations of photographs of the gross pathology of disease, as well as photo-micrographs, which are excellent. The technique of operations is also given. Altogether the book is a good one for the student when used in conjunction with some more comprehensive one. It is well printed and bound. A. C. H.

Diseases of the Stomach, Intestines, and Pancreas. By Robert Coleman Kemp, M.D., Professor of Gastro-Intestinal Diseases, New York School of Clinical Medicine. Second edition, revised and enlarged. Octavo of 1,021 pages, with 388 illustrations. Philadelphia and London: W. B. Saunders Company. Sole Canadian Agents: The J. F. Hartz Co., Limited, Toronto. 1912. Cloth, $6.50 net; Half Morocco, $8.00 net.

The second edition of this book comes to us for review, and we find the author has availed himself of the criticisms of the first edition to correct the errors to which his attention had been directed. New subjects have been introduced, viz.: An interesting chapter on colon bacillus infection, with a description of the diseases and organs in which it is found. Also an extensive section on diseases of the pancreas. Duodenal ulcer has been re-written. Especial prominence has been given to visceral displacements and their treatment by mechanical methods. The author is evidently a devotee of Chittenden's theory. His views on excessive proteid diet are quite decided. Particular attention is directed to the so-called reflex gastro-intestinal disturbances emanating from disease of the gall bladder, appendix, and other organs. The author presents his subject in a plain and practical style, making it easy reading for both specialist and general practitioner. The illustrations are excellent, many of them from photographs of patients in the Manhattan State Hospital. W. H. P.

Clinical Bacteriology and Hematology for Practitioners. By W. D'Estre Emery, King's College Hospital. Fourth edition. Philadelphia: P. Blakiston's Son & Co.

The author, in the preface, explains that he has written this book to meet the requirements of practitioners who have

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INDIANAPOLIS, IND., CITY HOSPITAL

had very little or no training in hematology and bacteriology, and who are unable to co-relate the laboratory and clinical work. In this he has succeeded admirably.

The book consists of three parts: Bacteriology, with five sections, Hematology and Cyto-Diagnosis with one section each.

The methods described are the most generally used, and he describes in detail how it is possible for one, who having no access to a fully-equipped laboratory, may improvise, with the material at hand, apparatus suitable for the work required. In the chapters on Bacteriology he mentions the diseases produced by the organisms, their diagnosis by laboratory methods, some few clinical manifestations and treatment in so far as it relates to vaccine or serum therapy. In the section on hematology, after discussing the subject from a morphological and histological standpoint, he refers to the different conditions due to blood changes, and gives the associated blood pictures.

This book will prove most valuable to practitioners who may care to attempt some laboratory work as an aid to diagnosis or treatment. He will find the statements uncomplicated, sane and recognized at the present day, as accepted. D. E. R.

Himself—Talks with Men Concerning Themselves. By Dr. E. B. Lowry, author of "Herself," "Truths," etc., and Dr. Richard J. Lambert.

The subject of this little book is not one easily handled in print, even in a medical journal. Some one has, however, to speak out, and the authors of "Himself" have done so, and done it well.

Occasional Papers on the Prevention of Some Common Diseases in Childhood. By J. Sims Wallace, D.Sc., M.D., L.D.S., Dental Surgeon and Lecturer on Dental Surgery and Pathology, London Hospital; Hon. Dental Surgeon West End Hospital for Nervous Diseases. London (Eng.): Tindall & Co., Covent Garden.

The author has collected in this volume a number of lectures and addresses delivered by him at different times on the subject of "Diet in Infancy and Childhood," and "The Pre-

vention of Dental Caries." The writer attributes the terrific destruction of the teeth in children almost entirely to faulty diet, and holds the medical profession, to a large degree, responsible for the faulty ideas regarding the feeding of children, inasmuch as methods of feeding advocated in medical journals and textbooks are very much at variance with what is taught and believed by the members of the dental profession. Incidentally, the author believes a very marked decrease of diseases due to infection through the mouth, would follow the adoption of the views regarding diet advocated by him.

The small book contains much that appeals to the reader as reasonable and will amply repay the reader. W. B. T.

A Manual of Pharmacy for Physicians. By M. F. DeLorme, M.D., Ph.G., Assistant Professor of Materia Medica and Pharmacology, Long Island College Hospital, New York. Third edition, with 19 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1912. 220 pp. $1.25.

One of the great difficulties of the young practitioner is the writing of a prescription in such a manner as to allow of its being correctly compounded. His ideas of incompatibilities, correct Latin terminology, etc., are, to say the least, hazy. This little work is simple, concise, and contains a great deal of useful information with regard to this important branch of materia medica. A work of this kind, carefully studied and followed, would lessen the number of mistakes which are constantly being made in the dispensing of drugs. R. H. T.

The Practitioner's Encyclopedia of Medicine and Surgery in all Their Branches. Edited by J. Keogh Murphy, M.C. (Cantab.), F.R.C.S., Surgeon, Miller General Hospital for South East London, Senior Assistant Surgeon to Paddington Green Children's Hospital. London: Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E.C. Toronto: D. T. McAinsh & Co. 1912.

Of late years there have appeared many systems of Medicine and Surgery which contain almost everything known on

the subject. The reader must, however, wade through a great deal of matter before finding the practical point in diagnosis or treatment which appeals to him.

This book is written with the object of making it possible for the busy practitioner to rapidly review any department of medicine, surgery, or special surgery easily. The fact of his being able to do this in a single volume is a great help. Scientific advances in medicine have occurred so rapidly in recent years that a single book which deals with all these simply and concisely is absolutely essential. When these subjects have been dealt with by men who have been recognized as being leaders in their subject, it is assured that everything of proved value will be given. Anatomical and pathological details are absent, descriptions of rare operative procedure have been omitted. A practitioner's encyclopedia rather than a general encyclopedia has resulted. The work is extremely practical, as is shown by the variety of contents and the method of treatment. For example, under diseases of children will be found signed articles dealing with such subjects as colic, flatulence, fever, worms, jaundice, rheumatism, abdominal pains, enuresis, sleeplessness, diseases of speech, etc. A splendid chapter appears on problems of life insurance: medico-legal points in practice; mental disorders in practice, anesthetics, hospital construction, etc. The chapter on general surgery is of special value to the general practitioner, because it is not burdened with historical or pathological data, rare operations, etc. The sections dealing with the eye, ear, nose and throat, are splendid. Each item is short and to the point and permits the practitioner to advise his patients safely and promptly and know at the same time he is not following the teaching of someone who has a hobby that is lauded to-day and cast aside to-morrow.

There is no book that the reviewer has read that appeals so strongly to him from the standpoint of general usefulness. An immense amount of importance is given in one volume, and we are of the opinion that there is no other single volume of more practical value to general practitioners, and this is characteristic of the Oxford publications. P. G. G.

BEVERLY HOSPITAL BEVERLY, MASS.

By courtesy of *The American Architect*.

Elementary Materia Medica for Pupil Nurses. By F. W. Scott, Jr., Ph.G., Instructor in Materia Medica, Long Island State Hospital Training School for Nurses, Brooklyn, N.Y. Second edition. Price, $1.00.

The nurse, whether pupil or graduate, will find this little book a very great help. It is divided into ten chapters as follows, viz.: weights and measures, solutions, doses, medicinal properties, abbreviations, prescription reading, medicinal substances, their action, doses, etc., and poisons. As we all know, materia medica is a very dry subject, and we are glad to see this attempt to make the subject easier for the nurse.

W. J. W.

Aids to the Diagnosis and Treatment of Diseases of Children. By John McCaw, M.D., R.U.I. Fourth edition. London: Bailliere, Tindall & Cox. 1912.

While one hesitates to commend anything in the way of a synopsis or quiz compend, it must be admitted that this book is wonderfully complete, and that most of the "cutting short" and "making small" process has been at the expense of large type and unnecessary padding. Indeed, this book of 400 small pages, contains more than just bare facts; it gives the explanation of the facts in a large proportion of the work. G. S. S.

"Auto-Intoxication and Disintoxication." An account of a new Fasting Treatment in Diabetes and other Chronic Diseases. By Dr. G. Guepa, Paris. Translated by F. S. Arnold, B.A., M.B., Oxon. With an introduction by the translator, and a chapter on the use of the Method in the Treatment of Morphine Addiction, by Oscar Jennings, M.D., Paris. New York: Rebman & Co.

This small work is a translation of the main portions of "Auto-Intoxication et Disintoxication." In this work the author expresses the belief that the essential factor in many chronic diseases is a condition of auto-intoxication. Consequently the logical treatment for these conditions would be to facilitate excretion of the poisonous accumulations in the system. At the same time the production, or further accumula-

tion of toxic materials is prevented by prohibiting absolutely the taking of food other than water for a limited period. During this period of fasting the patient is to take large quantities of purgatives daily, sufficient to produce very free purging daily. In this way, the author, as he terms it, "disintoxicates" the patient. Following the disintoxication, the patient enters upon a new lease of life. Improvement, the author claims, in the case of diabetes and gout, particularly, lasts for considerable time, and if repeated tends to produce a permanent improvement. Interesting cases are cited to show the effect of this treatment on diabetes, and also on drug addiction and on alcoholism. W. B. T.

A Manual of Clinical Chemistry, Microscopy and Bacteriology. By M. Klopstoch, and A. Kowarsky, of Berlin. Translated from the German. New York: Rebman Company. 1912. Price $3.00.

In this excellent book the examination of the body fluids and excreta are described with as much minuteness as 370 medium-size pages will allow. The technique is carefully given and is up-to-date. It will answer a useful purpose for practitioners and students, indeed for all, except the specialist in laboratory work. G. S. S.

Pathology and Treatment of Diseases of Women. Fourth edition. Rewritten by A. Martin and Ph. Jung, Professor and Direktor, Professor und Oberarzt, Der Universitats-Frauenklinik in Greifswald. Only authorized English translation, written and edited by Henry Schmitz, M.D., Professor of Gynecology, Chicago College of Medicine and Surgery; Medical Department, Valparaiso University, etc., etc., with one hundred and eighty-seven illustrations, twenty-five of which are in colors. New York: Rebman & Co., 1123 Broadway. Price, Cloth, $5.00 net.

It is a pleasure to read this volume, it holds one's mind steadily, each subject, as it were, anticipating the one following. The pathological section is unstinted in value. The medical and surgical treatments are given fully and lucidly, yet concisely. The important points in each paragraph are

well brought out, and by being printed in bold type are more readily impressed upon the memory. One does not have to wade through innumerable pages of unnecessary material before arriving at the conclusions in general aimed at by the authors, and what are sought for by the physician. Careful study of this volume will well repay any reader and practitioner of medicine. C. F. M.

The Wassermann Reaction in the Diagnosis of Syphilis. By John W. Marchildon, B.S., M.D. St. Louis: C. V. Mosby Company. 1912. Price, $1.50.

In this volume of 98 small pages, an effort has been made to describe in simple terms what the Wassermann reaction is, the technique and the value of the reaction. The effort has been successful, and the book will be found very useful by the practitioner who wishes to understand the reaction. The last chapter, that on "The Influence of Anti-Syphilitic Treatment," is hardly complete enough, and would be better if the statements made were more definite. G. S. S.

Skin and Venereal Diseases. Miscellaneous. By Baum Moyer. Practical Medicine Series, Volume IX. The Year Book Publishers, Chicago. Price, $1.25.

This little volume is always well received by those interested in skin and veneral diseases; to the general profession it is probably of greater value, as all the latest methods of treatment are given in these branches and it is therefore, a handy reference, and is well worthy a place in the library.

D. K. S.

Modern Methods in Nursing. By Georgiana J. Sanders, formerly Superintendent of Nurses at the Massachusetts General Hospital, Boston. 12mo. of 881 pages, with 228 illustrations. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $2.50 net. Sole Canadian agents: The J. F. Hartz Co., Limited.

This is a very useful work, especially for the advanced or fully-trained nurse. For such it will make a good book of refer-

ence. Its numerous illustrations and descriptions are clear and well calculated to give a nurse a good idea of minor medicine and surgery. Some of it is too heavy for the ordinary nurse, and more in the province of the physician, e.g., the sphygmograms of the arterial pulse. It is a more advanced work on nursing than any we have yet seen, and as such will be found of great service to the nurse. W. J. W.

Practice of Medicine—A Manual for Students and Practitioners. By HUGHES DAYTON, M.D., Associate Attending Physician, New York Hospital; formerly Instructor in Physical Diagnosis, Cornell University Medical School, New York. Second edition—Medical Epitome Series. New York and Philadelphia: Lea & Febiger.

A handbook of some 300 pages, especially compiled for hasty reference by physicians and students. While the material contained is quite correct it omits a great deal that is absolutely essential, and is too concise to be of much benefit to the medical practitioner, though for hasty review preceding examinations it might find a field of usefulness. Diseases of nerves and of pharynx, larynx and tonsils, are not dealt with. It is an "epitome," pure and simple, and would not be a great addition to one's library. R. H. T.

Materia Medica and Therapeutics, Including Pharmacy and Pharmacology. By REYNOLD KEBLE WILCOX, M.A., M.D., LL.D., Professor of Medicine (retired) at the New York Post-Graduate Medical School and Hospital; Consulting Physician to St. Mark's and to the Nassau Hospital; President of the Medical Association of the Greater City of New York; President of the Society of Medical Jurisprudence: ex-President of the American Therapeutic Society and of the Harvard Medical Society; Fellow of the American Academy of Medicine; Honorary Member of the Connecticut State Medical Society; formerly Vice-Chairman of the Revision Committee of the United States Pharmacopeia, etc. Eighth edition; revised; with Index of Symptoms and Diseases. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1912.

This work is a condensed Pharmacopeia of 832 pages. It is

divided into two parts, the first of which is devoted to Materia Medica and Pharmacy, the second to Pharmacology and Therapeutics. It contains a complete list of the official remedies recognized by the United States Pharmacopeia, with short accounts of their pharmacological actions and therapeutics. There is, likewise, an index of Symptoms and Diseases which may be used for prescribing. Though it is the eighth edition of the work, there is room for more careful proof-reading (*vide* Therapeutics of Colchicum, p. 656). J. J. C.

Aids to Ophthalmology. By N. Bishop Harman, M.A., M.B., Cantab., F.R.C.S., Eng., Lecturer in Ophthalmology, West London Post-graduate College. 5th edition. London: Bailliére, Tindall & Cox, 1912. 2s. 6d.

This is one of the best of this series of Students' Aids. One cannot expect to find mention of everything in a book of this size, yet one never ceased to be surprised at how much is treated of in it. It is a model of precision and conciseness. M

We are in receipt of a catalogue of the School of Chiropody, New York City, whose President is Dr. Maurice J. Lewi. Unfortunately, schools of this character have in the past been put in the class of quacks and charlatans. In the case of this institution, however, we understand that it is conducted on a scientific basis. Dr. Lewi, who, for 21 years, has been Secretary of the State Board of Medical Examiners of the State of New York, feels that the feet should receive equally scientific treatment as do the teeth. A perusal of the catalogue leads one to think that the School of Chiropody, of New York City, should be recognized as an institution worthy of support.

Situation Wanted by Undergraduate Nurse.—A young lady who has been nursing for 3 years and has had considerable training in a Toronto Institution is anxious to get a position in a physician's office as secretary, or in a private family where there are no children. Willing to accept reasonable salary. Apply Miss D., care of The Canadian Journal of Medicine, Toronto.

LISTERINE

Listerine is an efficient, non-toxic antiseptic of accurately determined and uniform antiseptic power, prepared in a form convenient for immediate use.

Composed of volatile and non-volatile substances, Listerine is a balsamic antiseptic, refreshing in its application, lasting in its effect.

It is a saturated solution of boric acid, reinforced by the antiseptic properties of ozoniferous oils.

After the volatile constituents have evaporated, a film of boric acid remains evenly distributed upon the surfaces to which Listerine has been applied.

There is no possibility of poisonous effect through the absorption of Listerine.

Listerine is unirritating, even when applied to the most delicate tissues ; in its full strength it does not coagulate serous albumen.

For those purposes wherein a poisonous or corrosive disinfectant can not be safely employed, Listerine is the most acceptable antiseptic for a physician's prescription.

Listerine is particularly useful in the treatment of abnormal conditions of the mucosa, and admirably suited for a wash, gargle or douche in catarrhal conditions of the nose and throat.

In proper dilution Listerine may be freely and continuously used without prejudicial effect, either by injection or spray, in all the natural cavities of the body.

Administered internally, Listerine is promptly effective in arresting the excessive fermentation of the contents of the stomach.

In the treatment of summer complaints of infants and children, Listerine is extensively prescribed in doses of 10 drops to a teaspoonful.

In febrile conditions, nothing is comparable to Listerine as a mouth wash ; two or three drachms to four ounces of water.

"The Inhibitory Action of Listerine," 128 pages descriptive of the antiseptic, may be had upon application to the manufacturers,

LAMBERT PHARMACAL COMPANY,

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INTRAVENOUS MEDICATION IN TUBERCULOSIS REPORT OF A CASE

BY GEO. B. SIMPSON, PARKERSBURG, W. VA.

In reporting this case I want to assure the profession that I am not doing it to augment the practice of any physician, nor to be a factor in inflating the exchequer of any firm or proprietor of any formula; but I conscientiously feel that the profession should know what I know about intravenous medication from personal observation and experience in a limited way.

My attention was first called to this mode of treating the sick by reading an article from the pen of Dr. Harrower, relative to the injection of the Bannerman solution in treating tuberculosis.

For many years past my wife has been a great sufferer from fibroid tuberculosis. Her cough was one of the most distressing I ever heard, and was continuous day and night except when she was sleeping. Her nerves were unstrung, her appetite precarious, and she suffered much with general weakness. I had used various remedies, such as any physician will resort to, when one so near and dear as his wife is the patient. She could not well endure heroin, so that was abandoned. I even resorted to another climate, having her spend one winter in Colorado, and two years in Georgia; still we had the cough and disease to deal with.

I gave her the first injection about the first of last May, in the median basilic vein of the left arm. After five days I repeated the injection in the right median basilic vein, and at that time the cough seemed to be lessened, and before the third was given her cough had almost disappeared and gradually she began gaining strength, and was less nervous, and sleeping much better. Now, after only three injections, she is able to visit, attend different functions, and in fact is in better health than she has been for years. I might say that her cough has entirely disappeared, and we are exceedingly happy over the grand result. I would say that the injection is almost painless, and the effect is free from any disagreeable sequences.

It seems to me to be a great addition to the science of medicine; and the effect is to be commended for its certainty. My wife experienced the taste of creosote within twenty seconds after the injection. Now, why isn't this manner of introducing medicine into the system much better than by the per-orem route? By this means we know just where the dose is, and of what it is composed, as it was not subjected to any of the changes which would naturally occur, during the course of passing through the different channels of digestion.

I must agree with Dr. Wells in what he has to say about the benefit to be derived from change of climate, etc., in the November *Council*. I have known some cases greatly benefited; but, on the other hand taking everything in consideration, I am sure the majority of cases are better off right at home, among their own people where their minds are at rest, and they are free from that longing one has when away from home and among strangers. We all know what power for good or evil, the mind has over the body; no matter what one's surroundings may be, even of the most pleasant, if the mind is not at ease, neither medicine nor climate is destined to do great good, if any at all.

I might conclude by advising those who are in need of treatment for tuberculosis to remain at home, among their friends, and in connection with the

Real and Apparent Nutritive Values

While laboratory problems are readily worked out to logical, and, what appear to be, convincing conclusions, clinical experience frequently modifies some of these conclusions, or seems to disprove them altogether.

The reason is, perhaps, that full data are the essentials upon which to base correct findings, and such are not always, actually, though apparently, available—in the laboratory.

For example: To estimate the "calorie" value of Whole Wheat and Barley, would seem (in the laboratory) to be a correct computation of the dietetic value of the well-known food (made of these two cereals)—

Grape-Nuts

But, professional accuracy of observation from a clinical standpoint, and confirmed, in an empirical way by many of the more intelligent laity, has shown in many individual cases during a decade or more, that Grape-Nuts, for some reason possibly not readily demonstrable by the mathematics of chemistry; supplies in a prompt and practical way, far more real nutritive value than the laboratory chart gives to mere Wheat and Barley.

The above is well worth looking into by the physician who is broad and scientific enough to go after the best results for his patients.

Grape-Nuts has a greater food-value than mere Wheat and Barley—even outside the acceded advantages of proper cooking. It is a concentrated food, and contains all the proximate principles necessary in the highest form of food—protein, carbohydrates, salts, etc., and its solubility makes it ready for immediate digestion.

We shall be pleased to have expressions of experienee from the profession.

The "Clinical Record," for Physicians' bedside use, together with samples of **Instant Postum, Grape-Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any physician who has not yet received them.

Canadian Postum Cereal Company, Limited, Windsor, Ont., Canada.

intravenous injection and the proper directions as regards diet, hygiene, etc., they stand just as good a chance of getting well as to seek a new climate. I cannot but feel a great friendship for the Bannerman solution. It is not expensive, and usually not over six injections are required to effect a great change in any case, when not too far advanced. There are no doubt other solutions which are used intravenously, but I know of only this one. The others may be just as good.—*The Medical Council,* Philadelphia, Pa.

WHAT A MEMBER OF THE MEDICAL PROFESSION THINKS OF "PURGEN."

F. W. TUNICLIFFE, M.D., Professor of Pharmacology, King's College, London, writes:

"On the ground of my investigations made under varied circumstances as to the efficacy of Purgen, it is evident that our medicinal store in new purgatives has experienced a valuable addition.

Purgen was administered both to In and Outpatients of the Victoria Hospital for Children. Children at all times took it most willingly, as it is of a particularly pleasant taste, and is no doubt thought to be sweets by them. Never was there any sign of diarrhea or of colic. The experiment was also made to prescribe Infant-Purgen daily or every other day, and that without noticing any loss of effect, nor any sign of irritation of the kidneys.

The patients treated were adults, for the greater part outpatients or inpatients, affected by chest diseases, of the North London Hospital for diseases of the chest. In cases where Purgen was administered before going to bed, no opening took place during the night; it took effect only early in the morning. Our patients regularly and daily took Purgen as a purgative. In no case could there be observed any unpleasant contrary effects, nor any falling off in its efficacy. Purgen may also be used for diseases of the kidneys. Purgen is to be advised in instances where we have to avoid the circulatory depressing effects of aperients. In both these cases, especially when albumin is found in the urine, this non-depressive and non-irritating aperient is a desideratum."

HEDIOSIT $C_7H_{12}O_7$

A PLEASANT tasting nutrient and sugar substitute for diabetics is being presented to physicians by the Farbwerke-Hoechst Company, 34 Beach Street, New York, in the form of Hediosit a chemical compound, which is meeting with much favor in Europe.

It is easily oxidized by the worst diabetic cases and is utilized as food. In addition, it possesses the unique property of considerably reducing the excretion by diabetic patients of the sugar derived from other sources. There is no increase in glycosuria, even in the worst cases and ordinarily it is greatly reduced.

Hediosit is an important adjunct to the dietetic treatment of diabetes and offers great relief to the sufferer.

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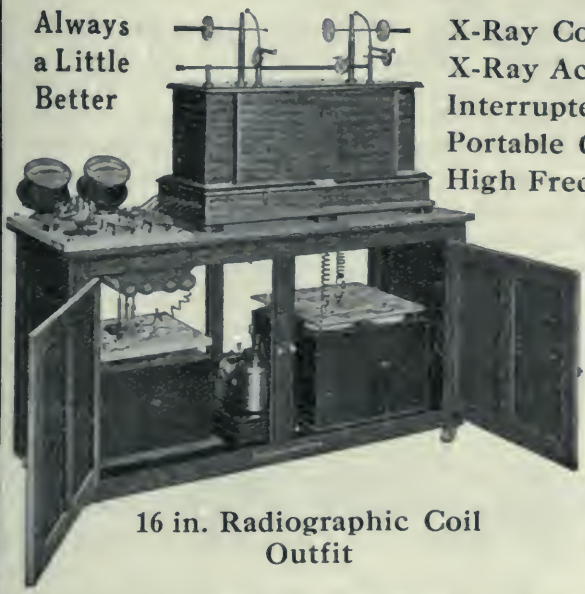
Always a Little Better



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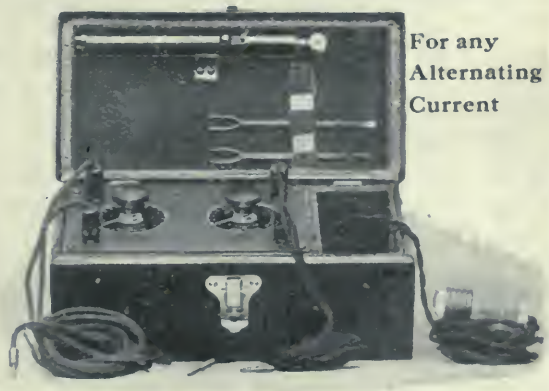

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Columbia Cautery Outfit No. 1

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Largest Manufacturers of Electro-Therapeutic Apparatus in the World

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REPAIR OF THE PERINEUM

GREER BAUGHMAN, Richmond, Va. (*Journal A. M. A.*, February 1), describes his methods of delivery and repair of the torn perineum. He uses the lithotomy position until the head begins to be expelled and, bathing and sterilizing the perineum, he pushes the anterior vaginal floor backward and upward and endeavors to flex the head more and more. If the perineum seems tight when the head no longer recedes he gives a little anesthetic and, as the nurse extends the legs and everts the feet as soon as the apex of the vertex is delivered, he has the anesthetic pushed and tries to make delivery between pains. The advantage of extending the legs and rotating the thighs out is that the skin from the buttock and superficial fascia is put at the disposal of the stretched perineum better than the obstetrician can do by using the hand. If the perineum seems so tight that a tear is inevitable it is best to nick the sides. His method of immediately repairing the perineum which has been with him most successful is described as follows: "The patient is placed on her back with the thighs flexed on left abdomen and held in place with a suitable support like the Robb-Kelly strap. The vagina is cleansed of clots and the upper part of the vagina packed with sterile gauze or cotton, so as to make the field of operation as bloodless as possible. Then a good light is thrown into the vagina. Robins recommends sewing the mucous membrane and submucous fascia of the vagina to the mucous membrane and submucous fascia of the opposite side of the tear with a continuous chromicized catgut suture. Care must be taken to catch the muscles with the suture. The suture begins at the upper part of the tear in the vagina and is continued on down toward the vulva, uniting the mucous membrane and fascia with a continuous running suture, the operator trying to match the part of one side to that from which it has been torn. This restores the shape of the vagina (the vaginal sheath). After the vulva has been reached the suture and needle are laid in the vagina to be used later to unite the skin with a continuous suture. If there happens to be another tear in the vaginal sulcus or median line, which is almost always the case after the use of forceps, that tear is sewed, the mucous membrane and fascia to the mucous membrane and fascia of the opposite side of the tear with a continuous suture, just as on the other side, and when the vulva is reached the suture is temporarily laid aside. Then the crown sutures of silkworm gut are put in from the skin surface, just as they usually are done, slanting downward, but the rectum should not be entered, as sometimes happens, unless one feels in the rectum with a gloved hand. It is well to put the wound well forward with the sutures before tying, to see that the perineum is well cared for; then they are tied. The catgut suture that was stopped at the opening of the vulva is then picked up, and with a continuous suture the denuded surfaces are brought into apposition and the suture continued down the skin. If the rectum has been torn the sphincter may be caught and brought together by a silkworm-gut suture introduced in the skin just above the rectum, passing through the muscle and out at the other side through the skin. A similar suture just above the mucous membrane of the rectum, introduced from the skin, passing around the tear in the rectum and coming out on the skin of the opposite side, will draw the mucous membrane down like a purse-string."

Influenza and Pulmonary Bacterin

(INFLUENZA AND PULMONARY VACCINE)

For the prophylaxis and treatment of influenza, colds, pneumonia and mixed infections of the respiratory passages.

This bacterin is prepared in accordance with the findings of Allen, Cantley, Dunn, Gordon and other authorities, modified to meet the findings of Hitchens in the study of catarrhal affections.

Each syringe contains	A	B	C	D
B. influenzæ	12.5	25	50	100 million
B. of Friedländer (group)	12.5	25	50	100 million
M. catarrhalis (group)	12.5	25	50	100 million
Pneumococcus	12.5	25	50	100 million
Diphtheroid bacillus	25.	50	100	200 million
Streptococcus	12 5	25	50	100 million
Staphylococcus albus	50.	100	200	400 million
Staphylococcus aureus	50.	100	200	400 million

Furnished in aseptic glass syringes, four syringes in each package, A, B, C and D $2.00

Single syringes, each ..... .50

Mulford Bacterin Syringe—graduated in fifths for convenience in regulating dosage. Danger of contaminating unused portion of the bacterin eliminated.

Influenza and Pulmonary Bacterin contains killed pathogenic bacteria, the action of which is to stimulate the production of antibodies, and thus develop in the patient a condition of active immunity to the corresponding pathogenic germs or their toxins.

Bacterins should not be confused with antitoxins. The therapeutic value of the bacterins is due to their stimulating the formation of antibodies (bacteriolysins, bacteriotropins, opsonins, agglutinins, etc.) in the body of the individual into which they are introduced. Bacterins establish "active" immunity.

Curative Serums contain antibodies already formed and when injected in the circulation, supply the blood with anti-bacterial elements, conferring "passive" immunity—that is an immunity transferred from another animal body to that of the patient.

Write for Working Bulletins and full list of Bacterins

H. K. MULFORD CO., Philadelphia

New York	St. Louis	Minneapolis	New Orleans	Seattle
Chicago	Atlanta	Kansas City	San Francisco	Toronto

THE AFTER CARE OF CHILDREN'S ILLS

With the advent of school-days, and the daily association of many children in the class-room, the contagious diseases of childhood develop and multiply. The exanthemata, as well as diphtheria, whooping cough, etc., comprise a considerable proportion of the diseases that the family physician is called upon to treat during the late fall and winter months. The robust child, with but a mild infection, frequently recovers quickly and, perhaps, requires but little attention during the convalescent period, while the child whose general nutrition is "below par" usually emerges from the acute attack with a condition of anemia and general vital depreciation. In the large majority of cases it is undoubtedly wise to encourage and hasten convalescence by means of a palatable and efficient hematinic and general tonic. For this purpose Pepto-Mangan (Gude) is especially valuable. All children like it and take it readily; it does not irritate the digestive organs but, to the contrary, increases the appetite and assists in the absorption and assimilation of the child's nourishment. As it is non-astringent, it does not, as other ferruginous remedies do, cause or increase constipation. As Pepto-Mangan is prompt and efficient as a blood builder and general reconstructive, it should be preferred among children whenever medication of a general tonic nature is indicated.

SEX INSTRUCTION IN SCHOOL

P. Zenner, Cincinnati (*Journal A. M. A.*, February 1), gives an account of the later results of a course of instruction in sex hygiene given some five years ago in one of the Cincinnati schools. The school was in a slum district where the children were exposed to demoralizing influences and the moral tone was low. The immediate results were to make the scholars more cleanly and decent, and the influence also extended to the homes. Many parents came to the school to thank the teachers for what had been done. Four and a half years later, when the members of the class had become young men and women, Zenner requested the teachers to look up their records and present condition. Between one-third and one-half of them could be traced and the good results were found to have been lasting. With one exception the girls have all been found to have led pure lives and kept their minds pure. While, as was to be expected considering their history and environment, the report is not so favorable with the boys, the number of them with good habits and clean lives is unusual and a much better showing than the average of young men. Zenner thinks that the record shows what can be done and is an argument for general adoption of such methods of instruction. He admits that home instruction in such matters is ideal, but it cannot replace that in the school, and the notion of delaying such knowledge in children is futile. If they cannot have proper instruction from proper sources they will have it from evil sources and of a perverted kind. School instruction itself, if improperly done, may do harm, and the method he suggests to meet all possible objections is as follows: It applies to class instruction. "The lesson in each instance should be a prepared one. The teacher, whether school teacher, physician or any other, should

Sanatogen in Surgery

Feeding Before and After Operation

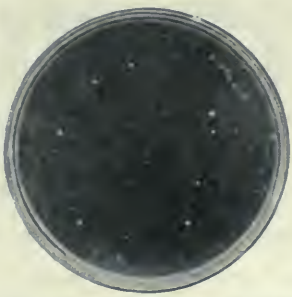
The success of operation depends, among other conditions, on the mental and physical fitness of the patient for the ordeal which he must undergo. A debilitated patient is "fed up" preparatory to operation; an endeavor is made to *raise the nutrition of his tissues to a high level*, to bring up his nervous energy to the point of maximum power, to ensure that his *metabolism is equal to the strain of repair involved in convalescence after operation.*

Metabolism Maintained

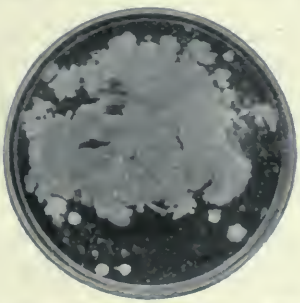
Clinical experience proclaims the unique success of *Sanatogen* in achieving these results. Sanatogen is a protein susceptible of easy assimilation, and it contains within itself the nerve food—Phosphorus—in a form which the nerve structures can utilize. *Sanatogen is, therefore, eminently adapted as a constituent of the diet during the period when patients are prepared for operation.*

In operations on the TONGUE, JAWS AND STOMACH, the dietetic preparations are of exceptional importance, because it is essential that the AREA OF OPERATION SHOULD BE ASEPTIC. Only sterilized food can be permitted for some days before operation. In this regard, also, the claims of Sanatogen are extremely great, because it is ABSOLUTELY FREE FROM PATHOGENIC BACTERIA.

Attempts have been made to cultivate organisms from Sanatogen on various nutrient media, under various conditions. Dr. Klopstock (*Zeitschrift für diätetische und physikalische Therapie*, B2.5., 1904-1905) records 150 investigations made with 23 different packets of Sanatogen. It was found that after 5 days' cultivation 10 SAMPLES WERE ABSOLUTELY STERILE; the others showed a few colonies, some as low as 3, but 12 was the maximum, and these were of a perfectly harmless character.



The very slight growth of bacteria obtained from a bouillon culture of Sanatogen transferred to an agar plate, proving the preparation to be practically sterile.



The abundant growth of bacteria obtained from ordinary casein treated in the same manner.

Experiments carried out by Professor Dr. Schuetze, of the Bacteriological Chemical Laboratory of Moabit Hospital, Berlin.

A Sterile Food

This substantiates the claim for Sanatogen as a sterile food, when required before operation.

Its sterility is again an especial recommendation *after* operations on the mouth or stomach. The bacteriological comparison of Sanatogen with Casein, the basis of all similar preparations, demonstrates the overwhelming superiority of Sanatogen in the matter of practical sterility.

The sterility of Sanatogen has been the subject of bacteriological test in all the stages of its manufacture, and the most searching experiments have shown that bacterial contamination is scrupulously eliminated throughout.

recite it to the assembled parents, with possibly the superintendent, a physician or other supposed expert in the audience. Only if it be satisfactory to this gathering should the lesson be given to the class. Such a procedure would have various advantages. It would be a reasonable assurance that the teaching would do no harm. It would remove the antagonism of the parents to such instruction, which is now its chief stumbling-block. The teacher might receive suggestions from the audience which would help him to make the lesson more valuable. Finally, the lesson might be a great source of instruction to the parents, often enabling them to teach their children rightly at home." Zenner says the public discussion of sexual matters is not without its possibilities of harm, but the greater danger of silence justifies it. If we can by instruction of the young lessen the great menace of social disease as well as help to create higher ideals there will then be no more need of so constantly bringing these matters before the public.

"SAVE THE BABIES."

PERHAPS the greatest perplexities in the doctor's practice are those that come in connection with the feeding of the baby that refuses to thrive. Especially during the hot months and among the bottle-fed do we find many babies who are peevish and irritable and "doing poorly" in spite of the cow's milk modified in a score of different ways and infant's foods which are tried in desperation, one after the other.

Yet the same conditions are quite frequently displayed in babies who are nursed at the mother's breast. The quality of the milk may, to all appearances, be all that can be expected, and the quality sufficient, still we find ever and anon that it fails to provide the nourishment needed at the critical period of life.

At the hour of need comes the B. Bulgaricus. The best tablet culture of it for general use is Galactenzyme, made by The Abbott Alkaloidal Company. This "friendly germ" has proved to be a great aid in cases of difficulty; also in bowel troubles of infants.

"It is exceedingly rare," writes one doctor, "to find a child who cannot digest cow's milk (not sterilized nor pasteurized, but properly diluted for age) if Galactenzyme is given."

Add 1 or 2 crushed tablets to each feeding bottle. Or give the tablets, dissolved, in a little water, after each feeding, if preferred, and in case the baby is breast-fed.

These tablets may be used for making "buttermilk," when desirable. But the fat and carbohydrate should be adjusted. To lessen the amount of fat, skim off part of the cream before curdling; to increase the carbohydrate content, add milk sugar.

It has been observed that infants so treated thrive better and are less prone to develop bowel complaints. A good plan for the doctor would be to put all his babies on Galactenzyme treatment at the approach of hot weather, as a prophylactic measure. This would surely cut down immensely the present infant mortality.

We advise our readers to send for literature on this topic; also samples for trial.

IF YOU HAVE A CASE of mal-nutrition where the patient remains obstinately too thin, you will be interested in the results of the new researches on Bovril carried out at the School of Physiology, Dublin. The tests made in the physiological laboratory proved conclusively the remarkable power of Bovril in building flesh. The subjects of the tests, both animal and human, increased in weight while Bovril was administered by from 10 to 20 times the amount of Bovril taken.

BOVRIL

IS CONCENTRATED BEEF

IODEX

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IODEX presents FREE IODINE in its highest therapeutic activity.

IODEX is entirely free from Solvents, such as Alkaline Iodides, Alcohol or Glycerine.

IODEX is absorbed with great rapidity and does not stain or irritate the skin.

IODEX is indicated in:—
Rheumatism, Gout, Swollen Joints, Syphilis, Ringworm, Enlarged Glands and all Inflammatory Conditions. In Pots, price 35 cents.

LAXOL

(Castor Oil Made Palatable)

LAXOL is the finest Castor Oil freed from nauseous taste and smell

LAXOL is not an emulsion or a diluted Castor Oil, but exhibits its therapeutic qualities unimpaired.

LAXOL is very pleasant to take and is entirely acceptable to the most fastidious. Children like it.

LAXOL does not gripe, and is valuable in Typhoid Fever, Diarrhoea Convulsions in Children, also Pregnancy and Childbirth. Dose same as Castor Oil. 3 oz. Bottles, 25 cents.

Samples and Literature sent on application.

MENLEY & JAMES Ltd. (of Canada) 337 Craig Street W. MONTREAL

NEUROBLASTOMA

The history and literature of neuroblastoma, to which attention has recently been called by J. H. Wright, are reviewed and discussed by Douglas Symmers, New York (*Journal A. M. A.*, February 1), who reports a case in which a careful examination of the tumor was made. This, as far as he has been able to learn, is the fourteenth one in which the tumor has been definitely recognized. He sums up his paper with the following: "The neuroblastoma is a malignant tumor composed of undifferentiated nerve-cells or neuroblasts and springs most often from nests of such cells lying in the medulla of the adrenal capsule, but occasionally from identical cells existing in other localities. The tumor presents a characteristic histologic picture marked by the presence of delicate fibrils supporting cells with scanty cytoplasm and richly chromatic, rounded nuclei, the cells being arranged diffusely, or in the form of rosettes, around tangled masses or fibrillated or homogeneous material staining pinkish with eosin. In certain cases the fibrils are absent or poorly developed, rosettes cannot be seen and the richly cellular character of the tumor may, in these circumstances, lead to the diagnosis of sarcoma. In deference to its cellular unit the growth in question is most aptly provided for under the designation of neuroblastoma. Of the fourteen cases the most striking feature consists in the fact that nine occurred in infants ranging from still-born to 19 months of age, and that in eight of the nine cases the origin of the growth was determined in the medulla of one or both adrenal capsules; in the other case the seat of origin is not stated. Of the nine cases observed in infants four were in males and four in females; in the remaining case the sex is not given. Three of the fourteen cases were encountered in adult males; in the other two the sex and age are doubtful. In these five cases adrenal capsules do not appear to have been primarily at fault, although definite information on this score is wanting. In children it would appear that the growth is divisible clinically into two symptomatic groups, one attended, roughly, by secondary exophthalmos, ecchymosis of the lids, infiltration of the cranium and regional lymph-nodes, the other by rapidly increasing distention of the abdomen due to neoplasmic infiltration of the liver and unattended by noticeable ascites or jaundice. In adults the number of recorded cases is too small and the clinical manifestations too bizarre to merit more than passing notice at present."

LYTLE'S MEDICATED INVALID PORT

The attention of the readers of The Journal is called to the advertisement of the T. A. Lytle Co., Ltd., Toronto, appearing on page xiv of this issue. This firm bottle a very choice wine suitable for convalescent patients. It is a most effective tonic, being well blended and contains cinchona and phosphoric acid. It is very pleasant to take and slightly stimulating. The T. A. Lytle Co. have one of the most sanitary bottling plants in Canada, the factory being regularly inspected by the Dominion authorities. This Invalid Port can be procured through any retail druggist.

BRAND'S

ESSENCE OF BEEF AND OF CHICKEN

For Exhaustion and Weak Digestion

The Best Restoratives After Loss of Blood From Any Cause

IN GLASS AND TINS

BRAND'S Essence contains no added condiments or stimulants. It is a pure meat essence in the form of a very delectable golden-coloured jelly, pleasant to take, and easy of assimilation by the most delicate digestion.
MEAT JUICE, and other Invalid Delicacies.

BRAND & CO., LIMITED, MAYFAIR, LONDON, ENGLAND
NEWTON A. HILL, 25 Front St. East, Toronto. H. HUBBARD, 27 Common St., Montreal

Knorr's Consomme -Cubes-

Each cube one cup.
"Ready in a minute."

2 cubes 5 cents.

If you like the

Consomme

try

KNORR'S

SOUP SQUARES
and
MIXED VEGETABLES

At your Grocers

ARTERIOVENOUS ANASTOMOSIS

B. M. Bernheim, Baltimore (*Journal A. M. A.*, February 1), reports a case of successful reversal of the circulation of all four extremities of the same individual, the possibility of which has been denied by Coenen and Wiewiorowski. Bernheim has collected fifty-two operations in the literature, including six of his own, and while the results are admittedly discouraging they demonstrate several points of interest and, all things considered, held out a hope of better things to come. Vascular surgery is still in its infancy and Bernheim holds that judgment as to the possibility of this operation should be withheld until a sufficient number of operations have been done by surgeons especially skilled in vascular work to justify a really unbiased analysis. Next in importance to the skill of the operator is the selection of cases, most cases of gangrene or threatened gangrene being inoperable. Evidence against Coenen's contention is accumulating—another successful case has been reported by Davies in London. In the patient here described he had reported two successful operations on the two legs in a previous article and early in 1912 the same conditions—pain, actual and threatened gangrene—called for a reversal of the circulation in both arms. This was done on the left arm on January 23 and on the right on March 5, the brachial artery and vein being united by lateral anastomosis. Only in his first operation on the left leg was end-to-end union used. The lateral method is the simplest and less risky and gives better chance of success. The patient has been benefited in her left leg and left arm; on the right there is still pain at times, but relief is hoped for in the future. Function is good. Some months ago a toe was burned and an ulcer developed and healed so slowly that it was removed at the patient's request. Outside of that there has been no gangrene and the circulation seems good. The mental condition is not satisfactory, a complication not rarely observed in Raynaud's disease. Further developments will be chronicled as they arise. The case goes, he thinks, a long way toward proving that there is no physiologic reason why the reversal of circulation may not be obtained in the extremities.

CELLOIDIN SECTIONS

M. Büchsbaum, Chicago (*Journal A. M. A.*, February 1), mentions the disadvantages of the Herxheimer and Cullen methods for making celloidin sections. The former takes twenty-four hours. The second, which is quicker, would be the method of choice and has its advantages when quick diagnosis is paramount over nicety of appearance. He offers a method of his own, the principle of which consists in shaking the specimen in contact with the fluid reagents, and gives the steps in detail, the whole process occupying only from forty-five minutes to one hour. The shaking dislodges the air bubbles confined in the tissues and prevents the formation of a coagulation membrane, thus allowing the reagent to act at once centrally and peripherally instead of having the penetration delayed by the necessity of osmosis through the albumin formed. He does not offer this as a substitute for Cullen's method, but rather as an aid to the pathologist and surgeon in making a quick histologic-pathologic diagnosis when such is required.

"Expels without discomfort to the patient the poisonous toxins that form in the alimentary canal and is of particular value in the treatment of febrile conditions."

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ANTITYPHOID VACCINATION

THE prophylactic use of antityphoid vaccine in children is recommended by Major F. F. Russell of the U. S. Army Medical Corps, Washington, D.C. (*Journal A. M. A.*, February 1). This has as yet received but scant attention, though, as Osler says, typhoid fever is pre-eminently a disease of youth and early adult life. Russell considers this prophylactic method as especially suited and desirable for all those between 2 and 16 years of age who leave home for summer vacations, schools or colleges. He has collected statistics of 359 such antityphoid vaccinations by fifty different physicians in various parts of the United States, and the reports given may, he thinks, be considered as representing an average opinion of the degree of reaction at this age. No attempt was made to collect statistics of the local reactions, which are generally less in degree than in adults. Only the general reactions are tabulated, and these might be expected to be more severe than in adults, as the temperature is easily raised in childhood. The comparative tables given, however, would indicate that this is not the case, especially after the second or third dose. The dosage is based on body weight and not on age; the child is given that proportion of the adult dose which its weight bears to the average adult weight of 150 pounds. No harmful effects have been observed in the 359 children, and, so far as is known, none of them have contracted typhoid fever, though some of the vaccinations were made over three years ago. Revaccination should be undertaken earlier and oftener in children than in adults, since they are immunized on the basis of body weight, and the second course should be given when this is materially increased. At present revaccination is advised in any event after three years. Further experience may permit a longer interval. He shows from the census figures that almost one-third of all deaths from typhoid fever occur in persons under 20 years of age, and a large proportion of these could have been saved by antityphoid immunization.

TETANUS

F. VAN DER BOGERT, Schenectady, N. Y. (*Journal A. M. A.*, February 1), after noticing the published cases of the good results obtained in developed tetanus from large doses of anti-tetanic serum reports one of his own. The patient, a girl 14 years old, had stepped on a nail about a month before treatment, causing a wound which was still present. The symptoms were trismus, rigidity of neck and extremities, pain on palpation of flanks and abdomen and tetanic spasms. In the nineteen days of treatment 587,500 units of tetanus antitoxin, obtained from the state laboratory, were given. The spasms ceased a considerable time before the cessation of the treatment. Two symptoms, probably attributable to the serum, caused its final discontinuance, swelling of the left hand, mild urticaria and rise of temperature lasting three days. There was also a papular rash recorded. The dose given is apparently a record one and shows the value of such doses or at least a tolerance for such dosage for this condition.

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WATER ABSORPTION

M. H. Fischer, Cincinnati (*Journal A. M. A.*, February 1), vigorously replies to Moore's criticisms of his colloid-chemical theory of water absorption by protoplasm. He accuses Moore of being unfamiliar with the literature of the subject, referring to the authorities, and says: "Did I not believe that the work of Hoppe-Seyler, Araki, Irasawa and Zillessen on the abnormal production of acids in the tissues in lack of oxygen; that of Hamburger, von Limbeck, Gürber and Eykmann on the effects of acids and salts on the swelling of cells; that of Grützner, Kahlenberg, True and Heald on the application of the ionic theory to the action of acids on protoplasm, and the colloid-chemical studies of the last decade are more familiar to every other student of the subject than to Moore, I might be tempted to review again the contributions of these authors." He quotes from his already published articles passages to refute Moore's charge that he has made no reference in them to the work of Loeb, points out where he differs from that author and quotes from Meigs to show that in his later work he has discarded his former views, which Moore it seems has taken up. He says Volhard, if correctly quoted, is in error, so proved by experiment, and that Maxwell's experiment proves only that the frog's skin behaves like the kidney, salivary gland, etc., in that it is capable of doing work. Osterhout's clever experiment is as easily explained, he says, on a colloidal basis as on an osmotic one, and gives his reasons. The rest of Moore's paper, he says, only repeats former criticisms already noticed. The present article, Fischer says, completes his discussion with Moore, though he will from time to time, as needed, touch on criticisms such as he feels "spring from scientific skepticism or the answer to which is not obvious from what I have previously written."

MEDICAL SECTARIANISM

The question of medical sectarianism forms the subject of the presidential address of Dr. J. B. Nichols, Washington, D.C., before the Medical Society of the District of Columbia, published in *The Journal A. M. A.*, February 1. It temperately reviews the history of medicine as regards the origin of the various schools and shows the failure of the speculative method as compared with the scientific methods of the present day. It is admitted that the medical sectarians obtain sometimes a certain success by psychotherapy methods, but they have not advanced effective knowledge, and the less exacting requirements as to qualifications and the commercial considerations have largely augmented the numbers of their practitioners. They utilize a spirit deeply rooted in human nature, but their life history is usually brief and their practice is inconsistent with their professed principles as is the case of the homeopathy of the present day. Argument is usually futile against them, as most faddists are not amenable to reason, and the prospect of their absolute elimination is remote. It is by cherishing the scientific spirit and honest endeavor to meet the psychic as well as the physical needs of mankind that we will find ample field for our activities regardless of their existence.

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EARLY PARESIS

ALFRED GORDON, Philadelphia (*Journal A. M. A.*, February 1), says that, while the clinical picture of paresis is characteristic in its advanced stages, the same cannot be said of the early period of the disease. Hence need of proper measures taken in time, the neglect of which may produce deplorable results. Its beginnings are insidious and always progressive. The earliest psychic manifestation is the slow irregularly progressive dementia which is naturally first observed in cultured individuals. Memory is usually affected early in the disease. The patient shows defects in his work, mistakes in figures and in writing; with these may be seen neglect of his personal appearance and oddities in behavior and irregularity in habits. The character and disposition are changed. There may be apparent a neurasthenic depression or in others a hypermanic exaltation and perversion of the moral sense. The defective memory, impaired attention and observation, judgment and disposition constitute the most important psychic alterations in the early stage. There are three types of bodily manifestations that not infrequently announce the oncoming paresis—apoplectic and epileptic seizures and attacks of aphasia. Vertigo is another manifestation. Another early bodily symptom is pupillary inequality which Gordon considers almost pathognomonic. The characteristic speech and tremor are infrequent in the early stages. He goes at length into the differential diagnosis and lays special stress on the lymphocytosis in the cerebrospinal fluid, the Noguchi precipitation test and the Wassermann reaction in the diagnosis from neurasthenia. In case of cerebral syphilis there is more difficulty,

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British Medical Journal, March 2nd, 1912

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'Lancet,' Feb. 3rd, 1912.

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but the character of the progressive dementia is different and the presence of headache and local symptoms will often aid the diagnosis. In chronic alcoholism and in lead-poisoning syndromes occur closely simulating paresis, but if the Wassermann and other tests mentioned are absent and the symptoms disappear after the withdrawal of alcohol the differentiation can usually be made. In lead encephalopathy the dementia seems to dominate from the onset and the physical symptoms aid the diagnosis. The effect of treatment is one of the best means of differentiation. In conclusion Gordon speaks of the medico-legal considerations involved and the importance of recognition of the condition in view of the possible actions of the patient.

A NEW SPECIFIC IN RHEUMATISM

Melubrin acts as a practical specific in articular rheumatism, according to reports of some of the leading internists of Germany.

Hoppe of the Berlin General City Hospital (*Berlin Klin. Woch.*, 1912, No. 22) says that as an antirheumatic it stands close to salicylic acid in efficiency and is far more acceptable. Melubrin's absolute freedom from toxicity especially commends it to Hoppe's mind.

Muller of the Deaconess Hospital, Halle (*Vienna Klin. Woch.*, 1912, No. 25) remarks on the particular value of Melubrin is acute and chronic rheumatic polyarthritis. He also commends it as an antipyretic, especially in pneumonia and sciatica, as its use is not attended with the disagreeable itching and perspiration caused by other antipyretics.

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OVARIAN METASTASIS IN MUMPS

Two cases of ovarian involvement in epidemic parotitis are reported by Harlow Brooks, New York (*Journal A. M. A.*, February 1), as of interest on account of the apparent infrequency of this complication, cases of which seem to be seldom reported. Both of his patients were young multiparae, one 28 and one 24 years of age. All the recorded cases developed in young children and young girls so far as he has discovered, except two reported by Rizet and those here recorded. In neither of his cases has there been a subsequent pregnancy of the patient as long as she has been under observation, though in one there are other apparently possible causes. In none of the other recorded cases is anything mentioned as to this point. It is not unlikely, he thinks, that the protected location of the ovary is largely responsible for the infrequency of the complication, as traumatism, which is probably the cause of a large number of cases of orchitis in mumps, is practically eliminated. The statement of Trousseau that ovaritis is a mild as well as infrequent complication of mumps is, he thinks, well borne out by the reports. In no case has there been a pathologic examination of the diseased gland. He is inclined to think that the metastatic process is a simple inflammatory one not likely to disturb ovarian function.

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CHRONIC APPENDICITIS

C. D. Aaron, Detroit (*Journal A. M. A.*, February 1), calls attention to a diagnostic sign which he has found exceedingly valuable in deciding when and when not to recommend operation for chronic appendicitis. In many cases he has been able to induce a referred pain or distress in the epigastrium, left hypochondrium, umbilical, left inguinal or precordial region by a continuous firm pressure over the appendix at McBurney's point. All the patients on whom an appendectomy has been performed have fully recovered from their apparent digestive disturbance. The digestive symptoms were caused by an infringement on the nerves, which reflexly induced a perversion in the secretion of gastric juice. In view of the difficulty of diagnosis of chronic appendicitis without frequent recurring attacks this symptom is of special value; moreover he thinks it will explain many cases of gastric and intestinal disease for which the appendix is responsible and may be the only part that requires attention. McBurney's tender point may be found in many cases of appendicitis though not in all, and this referred pain on pressure, Aaron thinks, is a valuable sign in the diagnosis of chronic appendicitis itself.

MELANOTIC SARCOMA

H. K. Gaskill, Philadelphia (*Journal A. M. A.*, February 1), gives an account of a case of melanotic sarcoma rapidly developing from a pigmented mole of the left foot which had been treated as a wart and subjected to considerable irritation. After an operation for its removal metastases appeared at various points on the leg and later on the trunk as high as the third rib with the cancerous cachexia, edema of legs, abdominal ascites and general emaciation. The patient succumbed about seven months after the operation; no autopsy was allowed. Gaskill insists on the importance of viewing with suspicion cases of this type of melanotic nevi, irregular in outline, waxy, smooth, frequently only slightly elevated and of a dark purplish or black color, and of extensive operative measures if they show a tendency to extend and their removal is attempted.

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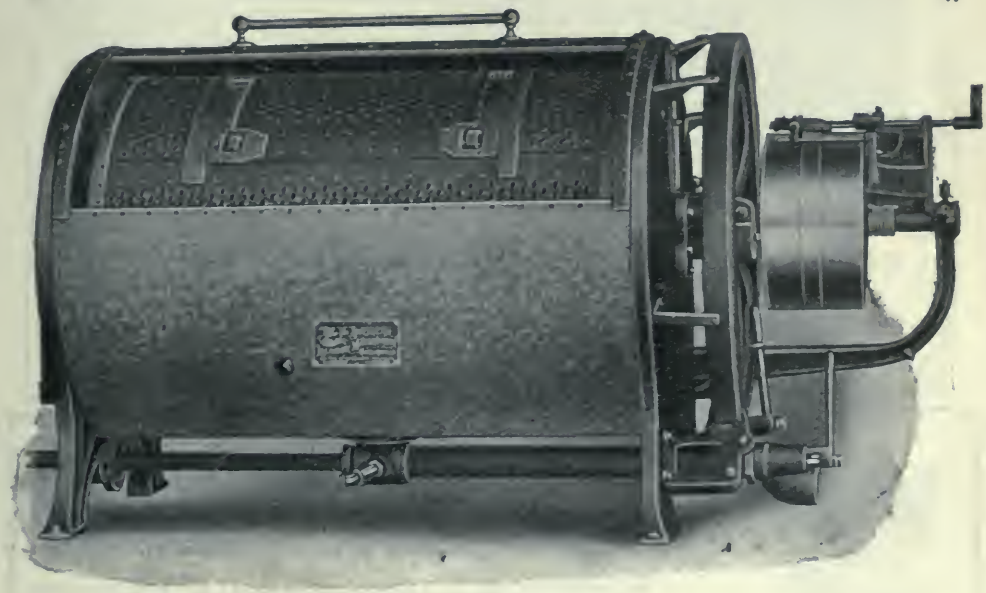

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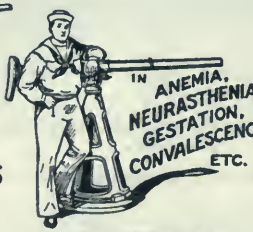

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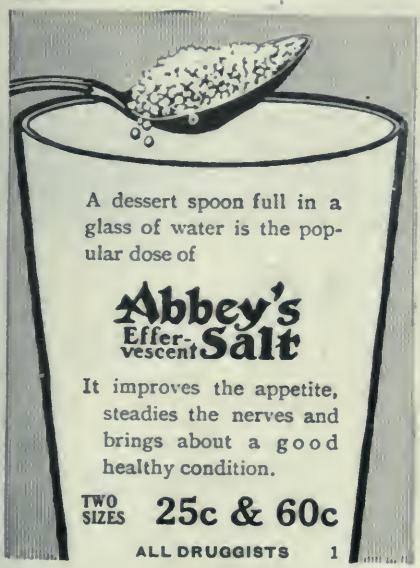

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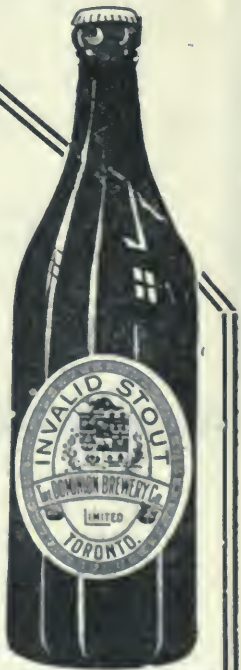

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The Canadian Journal of Medicine and Surgery

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Editorials

FEES FOR REPORTING CONTAGIOUS DISEASES

PHYSICIANS, practising in Ontario and other Provinces of Canada, should receive fees, for reporting contagious diseases to medical health officers in the various municipalities of the country. It is obvious that, when doing such professional work, physicians are acting in the interests of the general public, who are thereby shielded from contagious diseases and the hydra-headed brood of ills, which follow in the wake of such diseases. Physicians, in fact, become the unpaid health agents of the municipalities in which they live. As philanthropists, their conduct in this respect is admirable; but, from the bread and butter standpoint, it is absurd. The real business of physicians consists in the application of their knowledge to the diagnosis, prognosis and treatment of diseases—not the prevention. When ordered by the State to assist, *pro bono publico*, in preventive campaigns against contagious diseases,

physicians should see that proper fees are paid them. In Ontario communicable diseases, which physicians are obliged by law to report, include smallpox, chicken pox, diphtheria, scarlet fever, typhoid fever, measles, German measles, glanders, cholera, erysipelas, tuberculosis, mumps, anthrax, bubonic plague, rabies, anterior poliomyelitis, cerebrospinal meningitis, leprosy and ophthalmia neonatorum.

Any physician who knows or has reason to suspect, that any person, whom he is called upon to visit, is infected with any of these diseases shall, within twelve hours, give notice thereof to the Medical Officer of Health of the municipality in which such diseased person is. If he neglects to report the case, he shall incur a penalty of not less than $25, nor more than $100. The physician is worthy of his hire and should receive 25 cents for each such report, as is the custom in England in similar cases. J. J. C.

DR. TRIBOULET'S TREATMENT OF IMPETIGO CONTAGIOSA

NOTHING in dermatology seems better known or simpler than the treatment of impetigo contagiosa. In practice, however, cases of that disease occur, especially in very young children, in which the application of large moist dressings is very inconvenient, so that a more direct and less irksome treatment seems called for. Hence, we reproduce here an account of a treatment which is said to have proved

satisfactory in the practice of Dr. Triboulet, of the Trousseau Hospital, Paris. The remedy he employs is Ziehl's solution, which is ordinarily used as a stain for the tubercle bacillus. (Fuchsin, 1; absolute alcohol, 10.5 per cent.; phenol solution, 100.)

In applying the treatments, the crusts of impetigo are first removed as thoroughly as possible, by means of compresses soaked in a solution of sulphate of zinc (1-1200). Afterwards, by means of cotton-wool tampons, Ziehl's carbol-fuchsin solution is applied, with pressure, to each pustule or scab. The fuchsin solution dries on the eruption of impetigo, forming a reddish varnish, which effectually isolates the impetiginous element from contact with the air. Applied in this manner, each day, it is not uncommon to notice the impetiginous crusts shrivelling up and becoming punctiform in the space of eight, six or even three days, according to the size of the crusts at the time the treatment is begun. When the last vestige of a crust has disappeared from the patient's skin, the fuchsin solution, if applied over the subjacent cups, beneath the crusts, speedily heals these lesions.

Dr. Triboulet remarks that, in an hospital service, so exacting that the attendants cannot give individual attention to the dressing of the crusts of each case of impetigo, or in families, where it is not possible to spend the necessary time in curetting the crusts and applying suitable dressings, he has found that the daily application of the carbol-fuchsin solution, without any other formality, causes the impetiginous crusts to shrivel up and disappear.

This method of treatment is not suitable in recent eczema impetiginoides; it should be restricted to the individual pustules or scabs of impetigo contagiosa, the intervening healthy skin not being interfered with. The little patients should not be put back to bed, until the crusts touched with the fuchsin solution have become dry and present a varnished surface.

Zeihl's solution may also be applied with advantage to the pustules and scabs of ecthyma, to the eruption of confluent varicella, to the bullæ of pemphigus and to other forms of pyodermitis, such as those associated with suppurations of the nose, or ear, etc.

Owing to the considerable proportion of phenol in Ziehl's solution (5 per cent.), some practitioners might fear to use this preparation in large eruptions of impetigo. After prescribing it in hundreds of cases of impetigo in nurslings and in children convalescing from measles, diphtheria, scarlatina, etc., Dr. Triboulet says, that in none of these cases was any sign of phenol poisoning observed. Furthermore, even in cases in which a slight albuminuria had been found to exist, prior to the institution of this treatment, no evil influence resulted from the treatment itself.

For the reasons given, therefore; but, more especially, because it does away with large moist dressings in the treatment of the crusts of impetigo, Dr. Triboulet considers the carbol-fuchsin solution an ideal therapeutic agent in the treatment of that disease.

J. J. C.

THE SCIENTIFIC PRACTICE OF CHIROPODY

In New York State, an attempt has been made to reform the abuses, which have crept into the practice of chiropody, as carried on under the old law, and to change things for the better, under the operation of an amendment to the New York Public Health Act, which became effective September 1, 1912. Under the new law it is provided that, in New York State, the State Board of Medical Examiners shall determine the fitness of future chiropodists and that a candidate for license as a chiropodist must be graduated from a school of chiropody, registered by the Regents as maintaining a proper standard. Academic tests are also to be exacted from all intending students in chiropody. We understand that the School of Chiropody, which has been started in New York City, under the presidency of Dr. Maurice J. Lewy, ex-Secretary of the New York State Board of Medical Examiners, is the first and only school of the kind registered by the Regents as maintaining a proper standard.

If carried on along scientific lines, such a school may assist in making chiropody a specialty of medicine, which is itself a matter not unworthy of the consideration of physicians. Aside from a professional aspect of the subject, good service will be rendered to the people of New York State and other states of the Union by qualified chiropodists, trained in this school. The new departure will be watched with in-

terest by the medical press—if successful, it will find imitators in other countries and perhaps in Canada.

J. J. C.

MEDICAL INSURANCE AND SCALES OF FEES IN ENGLAND

CONSIDERABLE changes in the scales of fees, charged in medical practice, are likely to arise from the operations of the new Insurance Act in England. This Act practically divides Englishmen into two great classes—those having incomes up to $777.60, and others whose incomes are of larger amounts. Members of the former class are entitled to registration in local insurance panels and to attendance by medical men who sign these panels, the pay of the medical men being provided for through the machinery of the Act. Englishmen, having incomes over $777.60, per annum, are not entitled to inscription on the panels and will have to pay for such medical attendance as they may require, directly, to their medical attendants.

Heretofore, the poorer classes of private patients in England were not charged anything at all, or only small fees, the physicians recouping themselves—if they were lucky enough—by obtaining large fees from the well-to-do. Theoretically, this plan may have caught the fancy and satisfied the sense of justice of the public; but, in practice, it did not very much increase the bank accounts of the doctors. The poor you have always with you; the rich go to the Riviera

might serve to epitomize the situation of the English doctor and his clients. The old basis of the financial arrangement with the public was a poor compromise —medical men working for sliding scales of fees, while soothing the remonstrances of ruffled common sense with copious draughts of professional pride, dashed with a smack of Christian charity.

Now, however, that the treatment of the sick among the poor and middle classes of the population has been put on a business basis—now that medical men working on insurance panels have agreed to perform their share of the contract, a good deal of old-fashioned sentiment in the relations of doctor and patient will be relegated to the past. Doctor and poor patient will have no less respect and good will for each other than before—perhaps a good deal more —for, now, a poor Englishman, inscribed on an insurance panel, can demand, as a right, the medical attendance, which, a short time ago, he was forced to solicit as a favor.

As indicated above, Englishmen having incomes over $777.60 per annum, who are, therefore, debarred from inscription on the insurance panels, will pay medical fees directly to the medical man of their choice. These fees will probably be larger than those they were wont to pay. The finance committees of branches of the British Medical Association will have to bestir themselves and see to the compilation of fee scales, suitable for the cases of unpanelled Englishmen. In this matter, however, the old order will survive and the unstable sliding scale intrude its

unwelcome visage; for it would be scarcely fair to make J. S., who earns but $1,000 a year, pay as high a fee as the Hon. L. G., who earns $40,000 a year.

J. J. C.

THE VISIT OF DR. FRIEDMANN

THE visit of Dr. Friedmann to Toronto on March 14th, as a guest of the University of Toronto, created a good deal of interest in professional circles. His hurried call here was due to the efforts mainly of Drs. J. J. MacKenzie, Caulfield, J. W. S. McCullough, C. J. Hastings, J. H. Elliott, Harold Parsons and others, in whose hands were the arrangements as to both his reception and the patients hurriedly gotten together at the Pathological Laboratory and the Hospital for Sick Children.

Naturally the profession were anxious to see Dr. Friedmann and to learn something of what the lay press called his "cure" for tuberculosis, the result being that a large number of physicians turned out both morning and afternoon. He arrived at the Pathological Department about eleven o'clock and was kept very busy administering treatment until nearly two o'clock, when he went direct to the Hospital for Sick Children.

Dr. Friedmann is, like Zaccheus, low of stature, is typically German in appearance and speaks but little English. He is erratic but modest, is kindly in his disposition and is full of faith in his remedy, being

accompanied by his assistant, Dr. Benjamin. After a busy day he left on the evening train for London, Ontario, with the Hon. Adam Beck, remaining there for a day and returning to New York on March 16th.

Except for the hurry, owing to a doubt, till the last moment, as to his coming to Toronto at all, there was no trouble getting a large number of patients together, who, excepting the children at the hospital, were only too glad to avail themselves of an opportunity to be "cured." There were many pathetic sights that day, reminding one of the people who, long ago, waited to be healed by the Pool of Bethesda, so anxious were they to be inoculated with some of the precious fluid, on which they based the forecast of many happy years of life—a pitiful procession of sufferers waiting in hope for the healing angel's touch.

A large number of patients, young and old, were treated. It is altogether too soon to express any opinion as to the outcome, and nothing can be said regarding this for the better part of twelve months.

The following is an abstract of an address by Dr. Friedmann which was delivered at Ottawa, the first written statement, we understand, that he has made on the subject:

"Since the discovery of tuberculine, it becomes a well-known and recognized fact that in the bacillus itself were to be found the antigenes—that means the substance which contains or produces the curative bodies. During these last twenty-three years all efforts were therefore directed toward the extracting and isolating the effective elements with different methods by chemical, thermo-mechanical and biological proceedings. But all previous

methods for the preparation of remedies for tuberculosis originated from toxic virulent bacilli of the human or bovine tubercle, and in spite of all efforts nobody succeeded in removing the virulence and toxicity of these cultures. Consequently it often occurred that the various tuberculines had a damaging or at least endangering effect upon the patients. Besides these incisive measures damaged the very delicate and easily destructible antigenes. Therefore arose the task of finding a substance which would prove absolutely harmless even in big doses, and which contained, if possible, all specific properties of the bacillus excepting its toxicity and virulence. It therefore had to be an avirulent and atoxic bacillus. But one more thing had to be accomplished and that was that this avirulence, this lack of pathogenic qualities, should not be acquired by any incisive procedure of the cultures, or by chemical additions. There had to be found a bacillus of natural avirulence, and it had to remain avirulent and atoxic in the tubercular as well as in the non-tubercular individual.

"Inasmuch as it is natural that every method of deadening the bacilli, even the mildest, alters the finest molecular structure of the bacillus, it follows that only a 'live' bacillus could be used. The qualities necessary for such remedy therefore had to be as follows:

"It had to consist of genuine live bacilli which had remained intact from all additions and alterations and had to be of natural and complete avirulence and atoxicity.

"In former years I used human tubercle bacilli which had been rendered avirulent artificially, but I discarded this method completely because it was too dangerous and the results gave too little encouragement. These desired results I obtained immediately when I succeeded in finding a bacillus which originated from a cold-blooded animal—the turtle.

"This strain of turtle bacilli was originally almost avirulent and atoxic, and it loses its last traces of virulence by frequent transplantations. When I had it in that condition, and not before, I applied the remedy to human beings. At first I injected myself with it at different times. After that I gave it to adults infected with tuberculosis. Later on, to two tubercular children, and finally, when the curative effects were found invariably the

same, to healthy children of tubercular surroundings for immunizing purposes.

"I have found this remedy harmless whenever I used it for patients from the earliest childhood to the most advanced age in all forms of application—subcutaneously, intramuscular, and intravenous—even in big doses, and equally efficient in all forms of tuberculosis, pulmonary, bone, joint, glandular and skin. Aside from absolutely hopeless cases whose fates were already sealed, the remedy has proven its efficiency in most instances.

"To obtain the ideal, to eradicate tuberculosis, as an endemic disease, it is necessary not only to cure the tubercular individuals now living, but also to protect the future generations from this infection by a method following in principle Jenner's vaccination. So far I have vaccinated 350 children varying in age from one hour to three years. Most of these children were living in tubercular environments and much exposed to infection from this source. The earliest immunizations were made seventeen months ago, and all children are well to-day and are free from all symptoms of scrofula or tuberculosis.

"There is a well-founded hope therefore that this will prove the right way and the one to which our future efforts will have to be directed."

Our readers will also be interested in a letter on pp. 306-8 of this issue, by Dr. Edwin Walker, of Evansville, Ind., published in a recent issue of *The Journal of the A. M. A.*, who has had every opportunity of judging as to Dr. Friedmann and his work. Though we can quite understand his desire to first establish firmly his position from a scientific standpoint, we trust that, once this has been proven, he will come out and give the world the benefit of his original research, not allowing the matter of reward to enter into the question, but solely a love for humanity.

We would again wish to sound a note of warning and urge our readers not to become too sanguine.

The opportunity has been presented to Friedmann to "make good" and neither the University of Toronto nor any other institution can indorse him in any way until he shows definite results.

Permit us to express the very earnest hope that Friedmann will yet deserve to be known as a second Jenner and that, as a result of his (so far) secret method of preparation of an emulsion of living tubercle bacillus, he will prove his right to the pæans of praise that have been heaped upon him.

W. A. Y.

A SUBJECT FOR CONSIDERATION

A QUESTION which has been somewhat widely discussed from time to time by national bodies in previous years has in a somewhat different way been specially brought to the notice of this journal.

The Ontario Government has for a number of years been carrying out the very laudable policy of providing for utilizing the labor of as many as possible of the prisoners incarcerated in its prisons and jails, thus aiding in keeping the inmates in better health and to some extent, at least, aiding in the support of such penal institutions.

So far so good. But from another standpoint the policy has been carried out in a manner that seems at least to lend itself to very serious question. Has the Government a moral or even a legal right to use this labor in the production of articles which are allowed

to enter into competition with the products of firms in regular business who manufacture similar lines?

These business houses are taxed directly and indirectly, are forced by the Government to maintain their factories according to standards set by itself and are also compelled by social and labor conditions, if not directly by legislative interference, to pay at least a reasonable scale of wages. Under these conditions can it be considered fair that their produce should have to meet in competition the output of government institutions in which enormously different conditions prevail?

It may frankly be stated that the matter has recently aroused a good deal of interest, and it is recommended that the members of the government responsible for the present conditions should take the matter into serious consideration.

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Original Contributions

DIET IN ITS RELATION TO DISEASE

By H. B. Anderson, M.D., L.R.C.P. (Lond.), M.R.C.S. (Eng.)
Associate Professor of Clinical Medicine, University of Toronto.

In dealing with a subject so broad as the relation of diet to disease, it is obviously impossible in a limited time to do more than consider a few points of outstanding importance. Nor indeed would it be in place to attempt a detailed discussion before an association of this kind, whose province it is to deal with *general* measures for the maintenance of the public health, or with disease as it affects the community as a whole, rather than with the *individual* or the treatment of *individual diseases.*

As a starting-point, it is both interesting and instructive to consider the food of different races and communities from the evolutionary point of view. In this way it may be shown that each great advancement in dietary has been coincident with, and conditioned by, progress in other branches of social evolution. A gradual development can thus be traced from the earliest periods when our primitive ancestors lived on wild fruits, roots, birds, eggs, frogs, honey, gum, etc., through the period when recourse to fishing and hunting made a more liberal supply available. This was later further extended by the introduction of cooking, the cultivation of cereals, fruits and roots; the raising of herds and the storage of food against changes of season or the dearth of supply. In fact even up to the present time the dietary of different races has been determined by their geographical, climatic, social, economic and industrial environment rather than by systematic study or teaching. While these factors have been, and will in the future, be further modified by the spread of civili-

* Read before the Canadian Public Health Association Congress, Toronto, 1912.

zation and scientific knowledge, yet they must always remain of the first importance.

The instinct for self-preservation, the tests of utility, the consensus of experience of large numbers extending over many centuries, the promptings of appetite, the sense of well-being or its opposite, modified as needs be, by the laws of necessity, have all played a part in the process of dietetic evolution. Nor has the scientific investigator undervalued the information thus supplied. By him the dietary of different races, countries or districts may be considered as ready-made experiments on a huge scale, with data to be weighed and interpreted in the light of modern advancement.

As in other matters, however, with the progress of civilization it was early recognized that *experience* and *custom*, though valuable, were by no means unerring guides; consequently, the relation of diet to health and disease began to be more carefully observed and systematically studied. Of special importance are the contributions from early Greek and Roman medicine, so that many of the rules laid down by Hippocrates, Galen and Celsus are followed by us at the present day.

With them, close observation, abstract reasoning and shrewd speculation accomplished much; but in the absence of a knowledge of anatomy, physiology, chemistry, physics and bacteriology, their limitations were soon reached; and for many centuries thereafter little progress was made in this department of knowledge.

The first great impetus to the scientific study of nutrition followed the discovery of oxygen by Priestley in 1774, and the enunciation by Lavoisier, about 1780, of the law of the conservation of matter. Lavoisier, in 1789, brought forward his theory in explanation of animal heat and the part played by foods in the animal economy, viz.: that combustion occurs within the body in a manner analagous to combustion as we understand it elsewhere—that food is to the body what fuel is to fire. These conceptions were the starting-point and underlie the modern science of nutrition.

The next great period of advancement followed the investigations of Von Liebig (1813-1871), the chemist, and Von Helmholtz (1821-1894), the physicist and physiologist, the latter of

whom elaborated the law of the conservation of energy. These investigators cleared the way for the epoch-making researches of Pettenkofer and Voit, of Munich, who published their results in 1856. The former originated the respiration-calorimeter for the purpose of determining the amount of animal heat generated by the body under various conditions. As animal heat arises from the setting free of the potential energy of food by the breaking down of the highly complex molecules into their simple end products during chemical processes of metabolism, so the amount of heat generated was taken as a measure of the amount of material metabolized. By means of the *bomb* calorimeter it became possible to accurately determine the amount of heat generated by the oxidation of various foods in the laboratory. The same amount of energy is produced whether combustion takes place within or without the body. The potential or latent energy stored up in food is, therefore, readily represented by the heat produced during its combustion. This is known as the *caloric or heat value of food,* and varies with the character of the latter. The Calory has been taken as the unit of measurement, and represents the amount of heat required to raise a kilogram of water 1° C. (or a pound of water 4° Fahrenheit).

Represented by this unit of measurement, the combustion of

1 gm. fat produces	9 calories
1 gm. proteid	4 calories
1 gm. corbohydrate	4 calories
1 gm. alcohol	7 calories

For the production of a given amount of energy a similar amount of material is required by the cells of different individuals under similar circumstances.

It has thus been calculated that a healthy man at a light work requires about 35 calories for each kilogram (2 1-4 pounds) of body weight *per diem.* Thus, a man weighing 70 kilograms (168 pounds) would require daily about 2,500 calories. From rest in bed to extreme hard work, the requirement is variously setimated from 28 to 48 calories per kilogram of body weight. (Rubner.) Calorimetric investigations therefore show that during hard work almost double the amount of food is required as during complete rest.

The caloric value of various foodstuffs and the requirements of man under varying conditions of health and disease have been laboriously worked out by a host of investigators, among whom may be mentioned Voit, Rubner, Zuntz, Atwater, Von Noorden, Langworthy, Benedict, Abderhalden, Chittenden and others.

Von Liebig was the first to classify foods into *nitrogenous* and *non-nitrogenous,* and the usefulness of this general division is still recognized. The former are utilized for tissue growth and repair, while the latter are chiefly valuable for heat production and to obviate the necessity of too much proteid. A suitable dietary requires a certain proportion of each, though as to the essential minimum different authorities are not as yet agreed. Voit gives the proportionate daily requirements as:—

Proteid	120 gms.
Fat	50 gms.
Carbohydrates to make up 2,500 calories.	

The greatest difference of opinion exists with regard to the amount of proteid food required to efficiently maintain the nitrogenous equilibrium, weight, and strength of the body. Being essential for tissue growth and repair, if given in amount below the minimum requirement, tissue nutrition necessarily suffers, as the body proteids are attacked to make up the deficiency. When given in excess, proteids are not stored up for future use to any considerable extent, but are at once metabolized and thrown off as waste.

Chittenden, in his extensive and excellent experimental work, concludes that nitrogenous equilibrium and general health and strength may be maintained on from about one-third to one-half the amount of nitrogenous food advocated by Voit, Rubner and others. The settlement of this much-debated question will have a most important bearing on practical dietetics. From the economic point of view, the nitrogenous foods, in proportion to their caloric value, are much the more expensive. This is well illustrated by the following comparative table, in which is shown the cost per 1,000 calories of representative albuminous, fat, and carbohydrate foods respectively:

100 g. each	Albumina	Fat	Carbohy	Calories	Values of 1000 Calories Cents
Proteid Group—					
Beefsteak	25.8	2.0	0	124	39.11
Roast Lamb	27.0	4.0	0	148	32.75
Lamb Chops	22.6	4.5	0	134	35.08
Beef Stew	30.6	7.5	0	195	14.69
Eggs	12.5	12.11	0.55	166	33.24
Carbohydrate Group—					
Bread	7.06	0.46	56.58	265	2.77
Sugar	0	0	99.75	410	2.85
Macaroni	11.58	0.65	75.21	361	7.62
Sago, Tapioca	1.18	0.6	82.13	342	6.44
Rice	6.18	0.88	78.48	357	4.62
Potato	2.1	0.1	21.0	96	1.79
Oatmeal	15.10	7.1	68.2	407.7	2.31
Fat Group—					
Cream	3.76	22.66	4.23	243	28.99
Butter	0.74	84.39	0.5	790	8.89
Cheese (cream)	24.67	31.62	1.69	402	21.92
Bacon	0	95.6	0	889	6.17
Almonds (sweet)	23.49	53.02	7.84	622	14.16
Walnuts	15.77	57.43	13.03	652	13.48

Average cost of 1,000 calories of five representative *proteids*:

	Cents.
Beefsteak	39.11
Roast lamb	32.75
Lamb chops	35.08
Beef stew	14.69
Eggs	33.24
	5/154.87
	30.97

Fats—	Cents.
Cream	28.99
Butter	8.89
Cheese (cream)	21.92
Bacon (fat)	6.17
Almonds	14.16
	5/80.13
	16.02

Carbohydrates—	Cents.
Bread	2.77
Sugar	2.95
Rice	4.62
Potato	1.79
Oatmeal	2.31
	5/14.44
	2.88

Represented in another way, the purchasing power, in calories, of 25 cents at current prices may be stated as follows:

Proteids—	Calories.
Beefsteak	639
Roast Lamb	769
Lamb chops	712
Beef stew	1701
Eggs	752

Fats—	
Cream	889
Butter	2812
Cheese (cream)	1120
Bacon	4051
Almonds	1854

Carbohydrates—

Bread	9025
Sugar	8474
Rice	5411
Potato	10966
Oatmeal	10822

For years past the cost of living in all civilized countries has been steadily increasing. It is estimated that in the United States food costs the consumer the huge sum of twelve billions of dollars annually, and a like ratio, no doubt, applies to Canada. If, then, it is possible to replace part of the expensive proteid in the common dietary by fats and carbohydrates without the danger of physical impairment, a large reduction in the food bill would be accomplished.

A wiser selection of foods, based on a knowledge of their nutritive values and the purpose for which they are intended, greater care in cooking, and a study of means for the prevention of waste, especially among the poorer classes, would assist greatly in lessening the burden of increasing expense. A study of ordinary dietary would show that a considerable proportion of the outlay is for materials that have little value in nutrition, though many of these, apart from this factor, serve a useful purpose.

From the economic side, therefore, a vegetarian diet might be recommended, and has many advocates, especially among the laity. It may frankly be admitted that so long as the essential minimum amount of proteid is forthcoming, it matters not whether it be of animal or vegetable origin, and as practically all vegetarians permit eggs and milk, such a diet is capable of supplying the nutritive requirements of the body. In practical experience, however, several objections arise. In the first place, vegetable proteid is less readily digested and assimilated than animal, is less attractive to the palate, requires a much larger bulk, and consequently, is much more liable to produce digestive disturbance than a mixed diet.

By excluding the large class of animal proteid foods, the diet tends to become monotonous, and it is difficult over a long period to maintain the bodily strength and well-being. It may also be repeated that the diet of primitive people in all parts of the

world has always been a mixed diet—the proportions varying with the facilities for obtaining the various kinds of foods. Nevertheless, the general consensus of opinion appears to be that, among the most civilized nations, the consumption of animal food, and especially during advancing years, might be greatly reduced with benefit to the general health.

It is thus seen that in arranging a dietary, other factors than its caloric value have to be considered. Not only must there be a due proportion of the different classes of food, but its palatability, its digestibility and capacity for absorption must be taken into account, as well as the needs or idiosyncracies of the particular individual. While the study of the caloric values has thrown much light on the problems of nutrition, has stimulated investigation and modified custom, still it must not be too slavishly followed. As yet, it must take a secondary place to practical experience in the use of foods.

Disturbances of health arising from foods might be profitably discussed under the following headings:

1. (a) General excess, or (b) insufficiency of diet.
2. Excess or insufficiency of each of the different classes of food.
3. The effects of impurities, improper preservation, adulteration, bacterial contamination and animal parasites in food products.
4. Improper cooking or preparation of food.
5. Improper mastication.

Time, however, will not permit of an extended discussion, so one must be content by directing attention to a few points only.

Excessive eating, compared with nutritive requirements, is exceedingly common, and is a frequent cause of ill-health at all ages, but especially during infancy and in advancing years. In children we are only too familiar with stomach and intestinal trouble, dilation of the stomach, sleeplessness, enuresis, reflex convulsions, and nervous disturbances from this cause.

In adults, lithemia, gout, obesity, enlarged stomach, and other gastro-intestinal disturbances, headaches, sleeplessness, nervous irritability, arterial diseases, embarrassed circulation, kidney diseases, are all at times attributable to this cause.

The *irregular* partaking of food for *social* reasons or *custom*, entirely apart from its proper use in nutrition, is one of the

commonest and most flagrant violations of the rules of dietary. The ice-cream parlors, afternoon teas, or similar functions; the irregular and excessive use of alcohol, the common use of milk as a drink to replace water, where its use as a food is not required, may be mentioned. These and the habit of many people of taking raw eggs, egg-noggs, or artificial foods between meals for their supposed strengthening effect, when the individual is already suffering from an overburdening of the digestion, are some of the more useful means of filling the physicians' consulting rooms. When we consider that all these varied materials have to be disposed of, either to be rejected unabsorbed, perhaps to act as local irritants, or taken into the system to complicate and overstrain the tissue chemistry, even to form dangerous products of incomplete metabolism, the magnitude of the unnecessary burden frequently thrown upon the system is sufficient to appal one.

Even the excessive quantity of fluids frequently ingested is worthy of more attention than is ordinarily given to it. The layman often reasons that if the drinking of water is good, the more he takes the better, and, with all the enthusiasm of a convert or faddist, he proceeds to the limit of his capacity. Gastric atony, dilation, overburdening of the circulation, with the consequent development of cardiac enlargement, and even the breaking down of compensation, especially in the heart already weak, may result from this cause. Von Bollinger has investigated the effects of excessive consumption of beer in overloading the vascular system as in the "Munich beer heart," and Von Noorden especially has studied the ill-effects of excessive water drinking in both heart and certain kidney diseases, and their work forms a very important contribution to the practical management of these diseases. I do not wish to be misunderstood as condemning the sufficient use of water, but here, as elsewhere, the rule of moderation in all things is applicable. The liberal use of water is valuable in stimulating excretion of nitrogenous waste.

After forty years of age, when the requirements for tissue growth are absent, and the individual has become more sedentary, the nutritive requirements are greatly lessened, and food intake should be reduced correspondingly. Men at this time of life would do well to remember the advice of the famous Dr. George

Cheyne, who, by dieting, reduced himself from 448 pounds to convenient dimensions: "Every wise man after fifty ought to begin and lessen at least a quantity of his aliment, and if he would continue free from great and dangerous distempers, and preserve his senses and faculties clear to the last, he ought, every seven years, to go on abating gradually and sensibly, and at last descend out of life as he ascended into it, even into a child's diet."

Special diets or cures, as the Salisbury, the Banting, Milk Cures, etc., have a particular fascination for many people, especially for those given to the pleasures of the table—the sedentary, the idle rich, and the gourmand. The simplicity and monotony of these diets and their low caloric value preventing excess, offers a ready explanation of the benefits that often result from them among individuals of this class. The same class of patients yearly crowd the health resorts, from Battle Creek to Carlsbad, and by means of regulated diet, exercise, baths and aperients, obtain temporary relief from their self-imposed ills, but too often return with renewed vigor to take on another load and prepare for the next season.

In wasting diseases, as tuberculosis, and during convalescence from fevers and other acute illnesses, a more liberal proteid allowance is necessary to compensate for tissue destruction than the minimum before mentioned.

A diet rich in fats—by reason of its high caloric value—is useful in cases of under-nutrition and wasting diseases, but in excess often produces digestive disturbance, or, if absorbed, is stored up in the body, thus leading to obesity. The latter is much more likely to occur in those in whom there is a hereditary tendency, and who, even in a moderate diet, tend to take on fat. In contrast to proteids, the body has a much greater capacity to store up fats for future use, and a somewhat lesser capacity for warehousing carbohydrates.

The excessive use of carbohydrates—starches and sugars—also tends to produce digestive disturbances and obesity. While the body has a considerable capacity to warehouse this class of foods, the normal limits may readily be exceeded. The liver may fail in its function to store them up as glycogen, to be gradually transformed into sugar as the system requires. The blood may thus become charged with the excess of sugar, and

diabetes develops. The predisposition of the Jewish race to diabetes is largely attributable to their excessive use of sweets. The treatment of both obesity and diabetes, curative as well as prophylactic, is essentially dietetic.

The question of food purity is one of national importance, and nowhere has it received greater attention than on this continent. One may mention in particular the splendid work carried out under the United States Department of Agriculture, and especially the labors of Dr. H. W. Wiley, which will stand as a lasting monument, not only to his capacity as a scientist, but equally to his courage, honesty and industry. Our own Provincial and City Boards of Health have been doing commendable work, and this great association can exert no more useful influence than by assisting in the education of the people, and especially of our Legislatures and civic authorities, to its vital importance, and to urge upon them the necessity for proper organization and liberal expenditure to support those responsible for the work.

Such diseases as beri-beri from rice, ergotism from rye, and pellagra from corn, are only of academic interest to the Canadian, but a pure milk supply to save the slaughter of infants presses for solution upon every household.

The people should know that ptomaine poisoning from putrified meat, sausages, fish, canned goods, ice cream, etc., are all preventable by proper education, inspection and regulation. The same applies to typhoid fever from infected milk, oysters, and tape worm and trichinosis from diseased meat. It should be widely known that many of our food products form the best culture media for bacteria, hence contamination must be prevented. The infection in diphtheria, scarlet fever, etc., is frequently carried by them. The addition of preservatives as boric acid, formalin, salicylic acid, sulphurous acid, etc., to prevent bacterial growth, has been resorted to by unscrupulous individuals, and their deleterious effects have been fully investigated and exposed by Dr. Wiley and others.

Other diseases, as scurvy, rickets, etc., due to improper feeding, need only be instanced to further impress the importance of a suitable dietary.

The relation of improper preservation of food and bad cooking to the public health, as well as their economic importance, is

too large a question to enter upon. The establishment of a department of Household Science in the University is an indication that some, at least, are alive to the need of education in this direction.

I am glad to note that Dr. Chabot is bringing before this meeting the question of the establishment of a Federal Public Health Department. A National Institute of Hygiene in connection with such a department, with proper organization, adequate support, and a sufficient staff of scientific workers in the various branches to conduct scientific investigations and disseminate information to all classes, would repay many-fold the necessarily large expenditure involved. Institutions of this sort have been established at the public expense, in some cases supplemented by private enterprise, in Germany, Austria, Denmark, Japan, the Argentine, France, Great Britain, and the United States, and the experience of these countries would be the best guide for us to follow.

Our country is rapidly advancing to her assured place among the nations, our natural resources undergoing rapid development, every phase of industrial and commercial activity is abundantly prosperous. If the greatest asset of any country is a healthy, vigorous, and contented people, then Canada cannot afford to neglect measures having this end in view, or lag behind in the march of scientific progress.

IDEAS CONCERNING THE CAUSATION OF SOME CASES OF PANCREATITIS*

BY EDWARD ARCHIBALD, M.D.

Assistant Surgeon, Royal Victoria Hospital, Montreal; Lecturer in Clinical Surgery, McGill University.

Mr. Chairman and Gentlemen,—

I am deeply sensible of the honor and the privilege of speaking before this Association, the largest and the best organized of all the Provincial Associations. All the more, therefore, do I regret that what I have to say is no more than a preliminary communication, a mere report of progress, and necessarily inconclusive. It concerns, more or less directly, the problem of the etiology of chronic pancreatitis, a question which has of late years been exciting a very live interest. In addition, possibly one deduction may be drawn concerning the operative treatment of the disease.

If one were to inquire of the average surgeon what he understood to be the cause of that enlargement and hardening of the head of the pancreas which is generally called (perhaps with insufficient reason) "chronic pancreatitis," the general answer would be, I am sure, biliary infection, usually with gall-stones. And this, of course, would be largely right. Nevertheless, when one looks closely into the evidence, one is surprised to find that that evidence is really small in amount. It is true that the association of gall-stones, particularly if situated in the common duct, with pancreatitis is too frequent to be a mere coincidence; and besides, Opie's well-known observation demonstrated exactly the mode of infection. But Opie's observation of a stone in the ampulla of Vater, damming back the bile into the pancreatic duct, has rarely been repeated. Nor does a stone in this situation frequently block the pancreatic duct, so as to obstruct pancreatic excretion; else we should have many more examples of fatty stools with gall-stone jaundice than we actually do find.

* Delivered before the Ontario Medical Association, May, 1912.

On the other hand, it is relatively common to find cases of chronic pancreatitis without evidence of either gall-stones or biliary infection. Of the cases in the Royal Victoria Hospital which I have analyzed, over half were of this class.

We must, therefore, I think, go farther afield in seeking the cause of chronic pancreatitis in these cases.

Deaver has recently said that practically all cases are due to the invasion of micro-organisms. To such a statement I can by no means subscribe. Not yet, at least. Our cultures in cases of acute and sub-acute pancreatitis have remained usually sterile. And in the chronic cases, we have but very rarely the opportunity of taking such. We cannot take a stab culture, so to speak, of this organ. It is quite as allowable to think that toxins or chemical poisons are at fault, as in many cases of sub-acute nephritis, for instance.

However all this may be, the problem which seemed to me particularly insistent was that of accounting for the swelling of the pancreas in that large class of case in which no gross lesion of the biliary apparatus is discoverable. As already indicated, the one tangible fact in etiology that we possess is that which is based on Opie's observation (of pancreatitis caused by the damming back of bile into the pancreatic duct by a stone lodged in the ampulla) and on Flexner's experiments, in which he produced acute and chronic pancreatitis in animals by the direct injection of bile into the pancreatic duct. The question naturally suggested itself: Is there any possibility of bile being forced into the pancreatic duct without the help of obstruction by stone at the impulla of Vater?

It is perhaps not so well known as it might be that there exists a sphincter at the outlet of the common duct in the duodenum. The physiological observation that, while the secretion of bile is continuous, its expulsion into the duodenum is intermittent and dependent upon the taking of food, would naturally suggest this. Quite a number of years ago the muscle was anatomically demonstrated by Oddi, and this was later confirmed by Helly. I have microscopical sections demonstrating the existence of muscle in relatively considerable amount at this point.

Recent experiments in our laboratory concerning the pressure in the common duct, which this sphincter at the ampulla

will resist, have demonstrated the fact of sphincteric action from the physiological side without a doubt. It seems to me that if the common duct were closed at this outlet by such a muscle, there might occur, under certain circumstances, a sufficient back pressure to force bile into the pancreatic duct, even without there being any mechanical factor, such as a stone, to complete the obstruction. If such an event should occur, one could easily understand the development of pancreatitis in the absence of gall-stones. My observations, therefore, have been directed along the line of this supposition.

The first question investigated concerned the amount of pressure which the sphincter of the common duct would resist. The plan of the experiments was as follows: A curved glass cannula was inserted into the common duct, or one of the hepatic ducts, or the gall bladder, and so connected with a water manometer containing a solution of methylene blue. The duodenum was then opened and the papilla located. The pressure was supplied by raising and lowering the funnel containing the solution, and the height of the water column was read in millimeters. It was found that, on the average, the sphincter of the common duct would resist quite a high pressure, surprisingly high, indeed. The normal pressure under which bile in secreted and expelled by the liver is about 100 mm., and it has been shown by Freese that the contractile force of the gall bladder does not exceed this pressure very much. It was the more interesting, therefore, to find that the sphincter of the common duct would never allow the fluid to pass through it under a pressure of less than 150, and then only in small spurts, lasting two or three seconds, and followed by an immediate closure of the opening lasting from a half to one minute. As the pressure was gradually increased, it was found that the sphincter gradually gave way, so that when a height of 250 mm. was reached, the fluid might be allowed through in jets lasting from five to ten seconds, and with an interval between jets of ten to twenty seconds. Usually, it was not till one reached a pressure of 300 mm. that the sphincter showed signs of giving up; but even then it would fight hard against the pressure of the fluid, and succeed in damming it back for a few seconds at a time. These are the minimum figures. In most of the experiments it was not till one had

reached a pressure of between six to seven hundred mm. that the sphincter became paralyzed and allowed a continuous flow.

When one considers that this represents a pressure nearly six times that of the pressure under which bile is secreted, and over three times that which the gall bladder can exercise by the contraction of its walls, it becomes clear that if circumstances were favorable, one might reasonably expect that bile might be dammed back into the pancreatic duct, just as may occur when a stone is lodged in the ampulla. This fact also serves to explain the well-known observation of the dilatation of the biliary passages and of the stump of the cystic duct, after removal of the gall bladder, and it represents, to my mind, a further argument against the operation of cholecystectomy as opposed to cholecystostomy.

It is, of course, rather improbable that this sphincter action should, under normal conditions, force bile into the pancreatic duct; and, if it did so, one would hardly expect that any harm would be done. Flexner has shown that bile mixed with mucus has no effect on the pancreas. The sphincter probably relaxes in response to the stimulus of acid chyme arriving in the duodenum long before the bile in the gall bladder comes under any severe pressure. But I conceive it to be likely that abnormal conditions, such as duodenal catarrh, particularly where there has been fasting, as in cases of alcoholism, for instance (fasting keeps the sphincter of the common duct closed), the sphincter may be reflexly excited to a spastic closure, persisting long enough to produce a damming back of the bile into the pancreatic duct. Likewise, an infection of the bile, without gall-stones, might induce the same train of events; so, also, perhaps, a duodenal ulcer. All these are conditions which it is extremely difficult to reproduce in the dog, added to which is the fact that the main pancreatic duct in the dog empties into the duodenum separately from the common duct, although the smaller duct does join the common duct at the ampulla. Thus evidence along this line is difficult to obtain in the dog. I have only two experiments along this line. In the one, a strong solution of methylene blue was introduced into the common duct under pressure rising as high as 250. In this case the sphincter action was weaker than in any of the other animals used. I could not in this case reasonably

expect a positive result. An examination of the pancreatic ducts after the experiment showed that none of the blue had been forced back into them. In another dog I introduced cargentos into the gall bladder, and hoped that during its expulsion it might be forced into the pancreatic duct. The examination of this tissue is not yet completed, but so far the result is negative. This hypothesis as to the cause of chronic pancreatitis is therefore as yet no more than suggestive. Further experiments are being carried on.

The experiments demonstrated anew the great importance of the gall bladder as a reservoir. It was always impossible to get the sphincter of the common duct to relax until the gall bladder had filled up and become tense. If an opening were made simultaneously in the gall bladder, the fluid would flow out of it at a pressure of from 70 to 100 mm., and would not find exit at the duodenal end at all, unless one raised the pressure suddenly to a high level. On the other hand, it must be remembered that under the ordinary circumstances of three meals a day the bile secreted is always safely let through into the duodenum by a physiological yielding of the sphincter. This explains why, in cholecystostomy cases, less bile usually comes out during the day than during the night when the patient is fasting.

There is one practical application of the results of these observations, one which I hesitate as yet to put forward. It is that if one conceives, as I do, the *rationale* of the operation of cholecystostomy or cholecystenterostomy in cases of chronic pancreatitis to be a lowering of the bile pressure in the common duct, then it would be more rational to abolish the sphincter action of the ampulla of Vater. This I have carried out in two dogs. In both I first demonstrated a resistance of the sphincter amounting to 500 to 650 mm. of water; then I slit the ampulla along the duct for a half inch, and closed the abdomen. In both, three and eight weeks later, on reopening, I found the sphincter action permanently abolished, the opening being a long slit in the duodenum, through which fluid ran at a pressure of from 70 to 100 mm. of water. This, to my mind, constitutes a much more effective operation in reducing bile pressure than either cholecystostomy or cholecystenterostomy, and one which is certainly less risky than cholecystenterostomy.

I think of cholecystostomy as being of temporary benefit, after which recurrences may or may not appear. As to cholecystenterostomy, I think I was able to prove last year that it was useless to divert the bile. It did not do so unless the common duct was permanently blocked. Cutting of the sphincter, on the other hand, is a procedure permanent in its effects. It can be counted on to let the bile through at the pressure under which it is secreted. There would be no danger of any damming back into the pancreatic duct.

It is clearly not yet time to do more than suggest such an operation as this. For one thing, *inter alia*, the question of subsequent ascending infection from the duodenum has yet to be investigated. The late history of transduodenal choledochotomy cases must be obtained, with reference to the later development of signs of infection in the biliary system. And probably other objections are already in your minds. I shall be grateful for your discussion.

ABDOMINAL PAIN—ITS DIAGNOSTIC SIGNIFICANCE*

BY JOHN F. ERDMANN, M.D., NEW YORK CITY.

A DEFINITE diagnosis in abdominal lesions depends on numerous factors, such as temperature, pulse, feces, etc., and pain. This latter, when observed closely from the onset, I consider one of the greatest symptoms or signs we have. The late manifestations of pain may be confusing because of its generalization or its mimicry of other lesions. The above arguments hold good in the main, but of course have great exceptions. In the first instance, we may observe pain in the onset in the epigastric and umbilical zones, which requires a few hours for localization, as in appendicitis; while, in another instance, close observation of the point of greatest pain in the onset of the disease will indicate the lesion, as in perforative ulcer of the duodenum, stomach, etc.

In the study of pain, we cannot select a better zone distribution for regional diagnosis than the old classical anatomical ones—Hypochondriac, Epigastric, Umbilical, etc.—seen in everyday text-books on anatomy.

A pain in the epigastric zone, accompanied by great shock, with a previous history of digestive discomfort, points to perforation of an ulcer of the duodenum, pylorus or stomach.

The differential points in these are evident with a close anamnesis, when obtainable. We have the food intake symptoms, such as pain early after intake, in ulcer of the stomach; fifteen minutes to an hour, usually within an hour, when the ulcer is at the pylorus; and from one to three hours after, when in the duodenum. The other important clinical factors obtainable as aids are stagnation, vomiting, blood in the vomitus, with previous knowledge of the chemical constituency, as hyper-acidity, microscopical evidence of blood, etc.

Carcinoma: In addition to pain, we have usually the chemical absence of hydrochloric acid, frequently presence of lactic acid, coffee grounds vomitus, stagnation or not, loss of motility or not, loss of weight, and finally tumor. It is consistent with ulcer that one finds a tumor due to infiltration, and with car-

* Read before the Bay Medical Society of Newburg, N.Y., Nov., 1912.

cinoma that one finds free Hcl when the carcinoma is imposed upon ulcer.

Examination of feces in each of these conditions may give evidence of blood.

The pain of perforation of the stomach or duodenum is invariably placed by the patient in the epigastric zone, and usually accompanied by shock of a profound degree in the first few minutes to hours. Here we have a clinical difference between the conditions of pain in appendicitis, gall bladder, etc., as shock is usually absent in these latter. Occupying this, the epigastric zone and the right hypochondriac zone, we have, on the border line of these two, the common duct, the head of the pancreas and the duodenum.

The greatest aid to differential diagnosis here is in the history of previous complaint—gall stone, colic, jaundice, food intake pains, etc. Quoting from an article by Bloodgood, of Johns Hopkins, in the *Journal of the American Medical Association*, March 23rd, 1912, page 833, he says: "It is quite impossible to differentiate acute hemorrhagic pancreatitis, perforation of gastric and duodenal ulcer, and inflammation of the appendix, when situated high up in the right side, or an intestinal obstruction in the upper portions of the jejunum, or a case of acute cholecystitis, with very marked symptoms."

If one obtains a history of gall stone colic, and finds his patient in shock or suffering more acutely than usual in gall bladder diseases, and with lividity of the skin, shallow respirations, etc., one is justified in making a diagnosis of acute hemorrhagic pancreatitis.

Should the pain occupy the border of the right hypochondriac zone, extending into the epigastric and umbilical, with extension through the back under the shoulder-blade, and occasionally into the neck, a gall-stone colic diagnosis is acceptable. With pain and tumor in the right hypochondriac zone, in the neighborhood of the ninth costal cartilage, even extending at times toward the axillary border, giving evidence of the Robson and Murphy signs, a cholecystitis is to be suspected or diagnosticated. Pain occasionally is described as extending from the boundary lines of the right hypochondriac zone and the epigastric, upwards and outwards to the left, carried well under

the heart; here we have a fairly frequent evidence of a stone in the cystic duct.

Kidney colic is evident throughout the three zones on each side and into or below the hypogastric zone to the thigh on its inner border, the testes and glands in the male and the labium and meatus in the female. I have recently operated upon a patient for left kidney and urethral stone, with severe pain in the left shoulder. Gall bladders in extensive cholecystitis have been found in the right hypochondriac, lumbar, iliac and umbilical zone. Pain in ureteral calculi may be manifested very strongly on palpation over the site of the appendix, and in these patients the stone is usually in the portion of the ureter between the spine of the ischium and the bladder wall.

This (variety—situation) pain is frequently the cause of patients being operated upon for appendicitis, and can usually be diagnosticated with the greatest facility by urinary analysis and radiography. Attention was called above to the possibility of an appendix pain being in the right hypochondriac zone. It frequently occurs that the appendix extends upwards, thereby encroaching upon the limits of the zone, or even attaching itself in the gall bladder vicinity. In such instances, the difficulty of diagnosis expressed by Dr. Bloodgood is always present.

While it is true that the pain in appendicitis usually localizes itself in the classical region, it must not be forgotten that in this disease *the pain is referred in the onset in the large majority of patients* to the epigastric and umbilical zones, and that 6 to 12 hours, even longer in some patients, are required to give the iliac localizing evidences. Note how distinctly different from gastric and duodenal perforation and panereatitis. In the latter instances the pain in a few hours becomes generalized so that the patients frequently are operated on for appendicitis, only to find that organ apparently healthy, while evidences are found of bloody serum in case of pancreatitis or food contents in cases of stomach, pyloric or duodenum perforation.

Pain of ovarian nature has been duly described, and its area defined, by Robert Morris, in his monographs, during recent years, in which he places the ovarian tender point within one inch of the umbilicus on either side. The umbilical zone pains in the onset are usually those of appendicitis, except in the cramp-like pains of intestinal obstruction. In addition, we have the

umbilical zone pains of Morris mentioned above—those of extra-uterine pregnancy, with rupture and pains in cases of embolism or thrombosis of the superior mesentery artery.

Hypogastric pains are of appendicular, ovarian, tubal and bladder origin.

Appendicular, when the appendix points downwards and forwards behind the bladder; contributory diagnostic aids are urinary irritability, i.e., frequency of desire and pain upon urinating; also vaginal and rectal tenderness.

In pyosalpinx and tubal pregnancy, one has a history to consider which will shed light on either condition. Additional symptoms in tubal rupture are dizziness, faintness, blanching, rapidity of the pulse and vaginal bloody discharge, usually dark in color.

That a menstruation may have occurred, even during the two weeks preceding, was demonstrated in a patient operated upon by me lately, in whom the history was as follows:

History.—Menstruation (last) March 14th; pain and faintness on March 27th; at work on the 28th again; dizzy and fainted on the 29th; work on the 30th; returned home at 6 p.m.; again great pain at night, and dizziness; menstrual flow established again March 28th, but slight. Hospital 12.15 a.m., March 31st; pulse 128 to 140, pale, subnormal temperature; operated 3.30 p.m. Sunday, March 31st. Ruptured left tube. Abdomen filled with blood when seen at 3 p.m. by me. Generally painful abdominal rigidity, chiefly in lower three zones; marked pain by vaginal examination.

Left iliac pain is chiefly found in diverticulitis, sigmoid malignancies and left uretral calculi.

In diverticulitis there is sharp pain and acute symptoms allied to an appendix in the wrong side, and frequently diagnosticated wrongly as left-sided appendicitis. (See Erdmann in the *Yale Medical Journal*, February, 1912, on "Diverticulitis of the Colon.")

Left hypochondriac and left lumbar pains usually point to kidney colic, either of stone, hemorrhage or embolic infarct.

In addition to the acute pains considered, one frequently meets with vague pains in the abdomen, characterized by the patients as wind colic, or wind being checked at some spot. These are usually at the sites of the cecum, hepatic and splenic flexures

and the sigmoid, found in most instances in adults. In these patients one must always keep alert to the question of malignancy, and consider carefully the stools as to constipation, diarrhea, mucus and blood; also the appearance of the patients for the evidence of malignancy, and finally the question of weight, gain or less, is essential.

The malignancies or other types of partial to complete obstructions occurring in the small intestines give a chain of cramp-like pains, and later on visible peristalsis, with some of the other evidence as seen in malignancies or allied obstructions in the large intestines. The pains in this class occupy chiefly the umbilical and hypogastric zones, with the contiguous borders of all the others.

The pain or tenderness of gangrene, as in appendicitis, etc., is usually intensified; the skin is usually intensely hyperesthetic, with rare occasional subsidence of all pain and tenderness; in fact, a diagnosis of gangrene of the appendix, gall bladder, etc., can be made by the presence of hyperesthesia.

In considering pains of the abdomen, one must not lose sight of the pain of pneumonia in the lower lobe, and pleurisy of the sub and supra-diaphragmatic varieties, as in these illnesses one frequently is placed in a difficult diagnostic predicament, as both gall bladder and appendix has been explored for infections, due to the abdominal referred pains in these diseases.

Children occasionally provoke disgust with our diagnostic acumen by having pains as the result of tubercular glands in the mesentery—close to the ileo-cecal region—thereby provoking operation for appendicitis.

New York City, 60 W. 52.

Society Proceedings

THE ACADEMY OF MEDICINE

The Academy of Medicine meetings for March were unusually well attended. The usual Stated Meeting took place on Tuesday evening, March 4th, at the Academy Building in Queen's Park, when the rooms were crowded to capacity. Vice-President H. J. Hamilton was in the Chair, and Dr. Harley Smith acted as Honorary Secretary. On that occasion Dr. James Third, Professor of Medicine and Clinical Medicine, Queen's University, Kingston, delivered the following address on "Some Clinical Aspects of Arterio-Sclerosis":

For the mass of humanity, life is one unceasing struggle. During the first half of this struggle, our enemies come largely from without. In armies whose strength none can estimate, they camp along our line of march, break through the weak points of our defence, burden us with fears and suffering, cripple and deform where they cannot destroy. During the second half, these external agencies, disordered and discomfited, give up the fight, to a large extent, just as the vital forces begin to show the wear and tear to which they have been subjected, as damage and decay begin to advance just a little more rapidly than the processes of repair. With the second period, we are more especially concerned to-night. Our observations will be confined in the main to three classes: physicians and surgeons from fifty to sixty; women from forty-five to sixty; business men from forty-five to sixty-five years of age.

Physicians and Surgeons: That a man is just as old as his arteries, is one of the durable maxims of internal medicine. Almost daily we are reminded of this fact by the tragic death of some member of our own profession. Why should a man in the full vigor of life be cut off by disorders of the circulation, disorders that are more easily prevented than nine-tenths of the

so-called preventable diseases? To answer this and other questions, we must study the factors leading to an early breaking-down of the vascular system. Even when due allowance is made for the influence of heredity, an influence that we have no means of estimating accurately, there yet remains unexplained, a wide disparity in the death rate from arterial disease.

The following statistics are taken from the report of the Registrar-General for the Province of Ontario for the year 1911. They have been compared with those of nine other years and may be considered a fair average.

	Total deaths for year.	Deaths 50-60	70 and up.
Clergymen	61	11.5 per cent.	44.3 per cent.
Barristers	33	12 "	33.3 "
Physicians	60	33.3 "	21 "
Carpenters	308	18 "	31 "
Blacksmiths	112	18 "	40 "
Farmers	3,229	12 "	50 "

These figures should give us cause for reflection, but not necessarily for alarm, since the measure of a full life is not indicated by years. It will be observed from the above that the toll levied on the medical profession is highest for the decade between fifty and sixty; highest not only for the profession itself, but much the highest when compared with the other professions and the trades generally. It will be noticed, too, that the percentage of deaths for the medical profession for this period is exactly the same as that for the legal profession some twenty years later. From the published statistics, it is impossible to ascertain the causes of this high mortality in the medical profession for this period. I have therefore collected from the obituary notices in representative British, American and Canadian journals for the year 1911, the causes of death of fifty medical men, between the ages of fifty and sixty. It may not surprise you that 70 per cent. of these deaths was due to a breaking down of the cardio-vascular-renal system. The limited number investigated is due to the fact that the cause of death is not always given in obituary notices. While evidence based on such small numbers is not conclusive, it must be regarded as of some value, first, because the diagnosis in these cases would be accurate, and secondly, because the Registrar-General's report, above referred to, shows that excluding "old

age'' and ''still born,'' the mortality from disease of the cardio-vascular-renal system is 18.5 per cent. of the total. In the light of our present knowledge, a diagnosis of chronic interstitial nephritis in most patients past fifty is incomplete.

Another small series of cases is interesting and at least suggestive. Of nine gentlemen known to many of us, who began the study of medicine after thirty-two, and who had previously been engaged in agricultural or kindred pursuits, seven died of arterio-sclerosis within fifteen years of their graduation, one is living twenty-two years after, but in a condition, from vascular degeneration, scarcely preferable to death, and one, twenty years after graduation, is still in active practice but with a blood pressure rarely below 200 mm. Hg. Are we to regard the development of arterio-sclerosis in these nine gentlemen as a mere coincidence, or are we to regard the undertaking, comparatively late in life, of hard mental work as a special cause of vascular decay? This leads us to ask, what is there in the practice of medicine that causes such a high death-rate of practitioners between the ages of fifty and sixty? Why is it that 79 per cent. of the profession do not run the allotted span? Or again with regard to those who are our valued help-mates in the profession—the sisters and nurses—why is the mortality in comparatively early life so high? From the Registrar-General's report for 1911, we find that 61.6 per cent. of deaths among the Sisters in our hospitals and other charities, occurred before the age of forty and that no less than 82 per cent. of deaths among nurses occurred before fifty. Even when we remember that a considerable number of the Sisters die of tuberculosis and that the nursing profession is still in its infancy, we must admit that the mortality, both among Sisters and nurses, is alarmingly high. In an endeavor to find an answer to our questions, let us examine without too much detail, the everyday life of the general practitioner. Hard mental work is, and always has been, the open sesame of our profession. John Y. Bassett, the Alabama student, immortalized by Osler, writing from Paris in 1836, beautifully expresses this idea, ''There is not a solitary great man in France that is idle, for if he were, that moment he would be outstripped; it is a race and there are none so far ahead that they are not pressed by others; many are

distanced, it is true, but there are none allowed to walk over the course."

It is a common observation that most men of whatever occupation who lead regular lives, free from excesses of all kinds, as a rule live out their allotted span. It is fair to argue then, that the irregularity of the life of the general practitioner is a potent factor in his early break-down. Physiologists tell us that most men after forty or forty-five take food far beyond the needs of the body. In this respect, medical men are notorious sinners. Overeating when combined with constipation, induces passive congestion of the abdominal viscera, overfilling the splanchnic reservoir, and autointoxication. The absorption of toxines leads not only to early degeneration in the circulatory apparatus, but to poisoning of the nervous system. This poisoning shows itself in worry, in neurasthenia, and a vicious circle is thereby established.

With the toxines as a cause in mind, I have been at a loss to understand why phlebo-sclerosis is so much less common than arterio-sclerosis, since the toxines would be present in full strength in the venous blood. Is it due to a difference of work, a difference of structure, or is it a combination of the two? The actual expenditure of energy in mental work is relatively small, but the influence of that expenditure on the organism generally, and on the digestive system particularly, is very considerable. In most of our text-books we are told that hard manual labor, by increasing the peripheral resistance, favors the development of arterio-sclerosis. The statistics, so far as Ontario is concerned, do not lend confirmation to this view.

Observations: From the statistics quoted, no one can accuse the members of the medical profession of "intruding themselves into the company of posterity."

The large number dying between fifty and sixty must be regarded as a calamity, not only to the profession, but to the world. It is fitting that we should ask ourselves why the mortality among the members of our profession is approximately three times that of the other professions for this period; and having asked the question, it is surely our duty to ourselves, to our homes, to our science, to find the answer.

The limited statistics quoted seem to indicate that 70 per

cent. of those dying between fifty and sixty, are carried off by what may properly be termed a preventable disease. We cannot longer limit the preventable diseases to those of bacterial origin. Arterio-sclerosis, up to a certain age, must be regarded as a preventable disease.

From the lessons of statistics, from the lessons of every-day life, it is fairly evident that our irregular hours and epicurean appetites are the chief causes in the early development of arterio-sclerosis. The spiritual injunction of St. Paul, "Let a man examine himself," should be taken to heart by the members of the medical profession, at least in a physical sense. How often, in recent years, have men who considered themselves in excellent health been stunned to find they had a blood-pressure well nigh the breaking point? We should not examine ourselves too frequently, however. Over-solicitude leads to introspection. No man can stand a contemplation of his own ailments, real or imagined. So much for the profession.

Females with Hypertension: Total in series, two hundred and fifty. Ages forty-five to sixty.

Group 1. Moderate sustained hypertension at climacterium, returning to normal, 67 per cent.

Group 2. Hypertension at climacterium, going on to definite sclerosis, 33 per cent.

Of the eighty-two making up Group 2, fifty-five, or 32 per cent. of the total, either lost weight or remained about normal, while twenty-seven, or 11 per cent. of the total, increased in weight (180 lbs. or over) and of the latter, all were heavy feeders, showing a preference for meats and sugars. Let us now study the history of a fairly typical case of each group.

GROUP I.

Mrs. J., age forty-five. Good family history, except that her father suffered from asthma. She has always been more or less nervous; has a restless eye and a high buccal arch, appetite good, but is afraid to eat, bowels constipated, belches large quantities of gas, suffers from frequent attacks of palpitation, especially at night. Does not sleep well. A trifling noise made by the children "gets on her nerves." Has lost ten lbs. in weight. Menstruation regular. No nocturia. The stomach contents, four

hours after an ordinary meal, showed free Hel. .2 per cent. The right kidney could be made out below the costal margin; no pain; urine, no albumin, Sp. G. 1015. Hemoglobin 80 per cent. Apex of heart in normal position. Blood pressure 175 mm. Hg. No stiffening of radials or bronchials.

She was ordered a generous proteid diet, an alkaline mixture with small doses of sod. brom. and a laxative, to be taken well diluted, one hour after meals. This prescription she took at intervals for two years, at the end of which time menstruation had ceased and blood pressure was normal.

GROUP II.

Mrs. S. came under observation March 4th, 1904, at the age of forty-three. Her illness at this time was similar in all respects to that of the patient whose history has just been given and the same line of treatment was followed. Eighteen months later, she again presented herself. There was no burning in the stomach, though she complained of flatulence and frequent attacks of palpitation, especially at night. When tired, a dragging pain was experienced in the neighborhood of the right kidney which could be readily palpated. She had lost thirteen lbs. in weight; menstruation had ceased. She complained of headache, largely occipital. The apex of the heart was in the normal position, although the second aortic sound was markedly accentuated. Her blood pressure stood at 190 mm. Hg. She had to rise once or twice during the night to void urine. No albumin, Sp. Gr. 1005.

The proteids were reduced, though white meats, bacon, and a very moderate number of eggs, were allowed. An abdominal bandage was ordered. She was under observation at this time for five months and during this period took iodides with a laxative, small doses of bromide being added occasionally. She regained her lost weight and expressed herself as feeling well. Her blood pressure was now 170. She was advised to stop medicines with the exception of the morning laxative and to lead a quiet life, free from worry, excitement and fatigue.

She again consulted me in April, 1912, or six years later, when the following notes were made: Dizziness and shortness of breath; numbness in left foot and hand; pains in the legs if she walks more than three or four blocks; these were always relieved by

resting for a few minutes and elevating the feet—the "peripheral crisis" of Pal;* indefinite pains about the joints, described as rheumatic. Has some difficulty in descending stairs; there is much less pain in legs, if she comes down backwards. Occipital headache almost constant, frequently wakens her in early morning. The apex is displaced downwards and to the left two inches, second aortic sound accentuated, heart rapid, no murmurs; brachials tortuous. Blood pressure 300. The urine contains a small amount of albumin, with many hyaline and granular casts. Patient died suddenly two months later.

Observations: When we consider the histories of these cases of hypertension, two facts seem evident; first, that many women at the climacterium show hypertension and, secondly, that a certain percentage of these pass on insensibly into definite arterio-sclerosis. In none of the five hundred hypertensives, not even in the advanced sclerotic cases, could headache be said to be a prominent symptom until the appearance of a trace of albumin in the urine. So constant has this relationship been that I am usually able to anticipate the renal involvement.

Approximately 75 per cent. of women over thirty-five years of age, show an increase of blood pressure of from 5 to 10 mm. Hg. for the twelve hours preceding menstruation. About the same percentage under thirty years of age, show no change whatever. The slight increase cannot, therefore, be regarded as physiological.

The period of observation has not been sufficiently extended to form even an approximate idea of the duration of the disease in those of Group 2, who remained about their normal weight; but of those who gained in weight (180 lbs. and over), none have lived three years after decided stiffening of the arteries could be made out.

Business Men: Number in the series, two hundred and fifty; syphilities and leadworkers not included. The majority began to show definite hypertension between fifty and fifty-five.

Mr. R. Present age sixty-seven. Came under observation five years ago, complaining of dizziness on any sudden change of position, motor-boat uproar in his ears, some ill-defined numbness in the legs, occasional attacks of abdominal pain, attributed

* J. Pal, Gefuss-Krisen, Leipzig, 1905.

to flatulence, confusion of ideas towards the close of a hard day's work. Some dyspnea on exertion but never a prominent symptom. Bowels constipated; apex of heart displaced downwards and to the left one and a half inches. Impulse slow, strong and wide-spread. Second aortic sound accentuated; mitral systolic murmur of recent rheumatic origin. No headache. Radials and brachials tortuous: blood pressure 250; urine, no alb., no sugar. Sp. Gr. 1018. Loss of weight seventeen lbs. He was advised to continue his work, but to lessen both responsibility and number of hours. Was allowed fresh fish, bacon, white meats and given pot. iodid., sod. brom., and a laxative until the thumping in his ears was relieved, when the bromide was discontinued. At the end of six months, his blood pressure stood at 180 mm. Hg. The iodide was now discontinued and one dram of mag. sulph. on rising preseribed. The blood pressure was taken each month for the next year, without showing any appreciable variation. About this time he suffered from a hemorrhage into his vitreous, and iodide was again given for three months. He then spent several weeks at one of the Ontario springs, drank freely of the laxative waters and, on returning, reported himself much improved. For the past two years, his blood pressure has ranged from 190 to 240. He eats sparingly, takes a glass of mineral water on rising, avoids fatigue, takes frequent holidays, and continues at the head of a large business concern.

Observations: Modern methods and modern competition require men to work at high tension and for long hours. Directly or indirectly, the circulatory system bears the brunt of the stress and strain. The pulse tension creeps steadily up. There is increased work thrown on the heart, which in order to maintain a sufficient flow in the capillary beds, daily draws on its reserve forces. There is a limit to reserves as there is to everything else human, and, ere long, the irrigation system shows signs of clogging. The heart quickens its speed in a final effort to meet the emergency. For a time this strategic move succeeds, but only for a time. Sooner or later, stagnation shows itself, especially in the abdominal viscera. Imperfect digestion results, bringing in its train putrefactive changes in the bowels, flatulence and other disturbances. The toxins now literally pour into the defenceless life stream and the destruction is well-nigh complete.

Diagnosis: When the arteries begin to stiffen, the patient presents many symptoms closely resembling those of neurasthenia. A systematic study of the blood pressure will do much to clear up the diagnosis. The sphygmomanometer is quite as helpful in the diagnosis of vascular and certain neurotic affections, as the stethoscope is in respiratory diseases. We must not be misled by hypertension due to angiospasm so often seen in nervous women at the climacterium. Digital compression in the estimation of blood pressure, no matter how experienced the finger, is untrustworthy.

The size of the arteries differs a good deal in different individuals. If the radials are small, we are too apt to conclude that the heart's work is not being properly performed. We must take the blood pressure and above all search for the corroborative evidence.

A low reading does not necessarily mean an absence of sclerosis: the myocardium may be weakening or the general health below normal. The position of the apex of the heart is a valuable sign. It is well to remember, however, that the apex is usually three-quarters to one inch to the left of the point of maximum cardiac impulse. This can be determined by percussion and confirmed by fluoroscopy. If there is tortuosity of a vessel that is usually straight, we may safely infer that there is some degree of arterio-sclerosis. In health, the temporals are tortuous. Before applying the sphygmomanometer to the arm of a nervous woman, it is advisable to spend a few moments in explaining its use, otherwise a reading altogether too high will be registered, but don't let your patients know too much about blood pressure or blood-pressure instruments or you'll breed a colony of very troublesome neurasthenics.

General Management: A careful examination is the first essential in treatment. It quiets useless fears, inspires confidence and gains intelligent co-operation. If a business man, he should relax, but not relinquish, his grip on business, and should take frequent holidays, especially at some of our mineral springs. I am not a Nauheimite, but neither am I blind to the fact that many patients with hypertension and even well-marked arterio-sclerosis are greatly benefitted by six or eight weeks at the Nauheim Springs. I attribute the "cure" to the laxative waters, the

regular hours, the quiet restfulness of the place, the cheery optimism that seems to pervade everything and, last but by no means least, its reputation as a healing shrine.

In routine practice to-day, too much dependence is placed on vasodilators and iodides. A certain variable degree of hypertension is necessary and so long as it does not approach too closely the breaking point, it should be left alone. The nitrites may relieve some symptoms for a time, but only for a time. Except in the earliest stages of the disease, I have never seen any permanent benefit from the iodides. With the hippurates as recommended by Oliver of Harrogate, my experience is limited and not altogether favorable. With the preparations of mistletoe, I have as yet had no experience. The splanchnic reservoir is usually over-filled and judicious purgation will do more than anything else to restore the equilibrium. An occasional dose of calomel is often of the greatest advantage. When dilatation of the heart takes place, abstraction of a pint or a pint and a half of blood, will give temporary relief. Hot air baths by stimulating the action of the skin, will also give temporary relief. Alcohol should be prohibited in all cases and tea and tobacco too, if there are intermittent pains in the calves, relieved by resting. It is better perhaps that the patient should become a vegetarian as that term is understood to-day. I have for years, however, allowed bacon, fresh fish and white meats in moderation and apparently with advantage. The mental attitude of the patient must be considered. Too many restrictions are apt to lead to gloomy introspection. We must make life worth living. If we fail in this, we fail in discharging one of the important functions of our high office.

The discussions on this splendid address were led by Drs. R. D. Rudolf, T. F. McMahon, J. S. A. Graham, and V. E. Henderson.

Dr. Rudolf: I have listened to Dr. Third with great pleasure, the only flaw in my perfect enjoyment being the remembrance that it devolved upon me to open the discussion. Dr. Third has handled the large subject of arterio-sclerosis in a most masterly and comprehensive way, and in a comparatively short paper has gone over most of the field in such a manner that there seems to

be little to discuss. A few points, however, occurred to me as he was speaking, which may be worth mentioning. The Doctor's tables would almost suggest that arterio-sclerosis was becoming more frequent; but we may comfort ourselves by remembering that the disease was very common amongst the ancient Egyptians, as recent examinations of many mummies have shown the presence of the lesions in a great proportion of cases. Probably we only *hear* more of it lately, as we do of neurasthenia and appendicitis.

High blood-pressure and arterio-sclerosis are by no means always related. One finds arterio-sclerosis without any rise in pressure in perhaps 50 per cent. of the cases, and, on the other hand, often we see people with high blood-pressures, in whom there is no arterio-sclerosis that can be clinically detected.

As regards the care of these cases of high blood-pressure, I would agree fully with Dr. Third's dietary and general management, but would express greater belief in the value of potassium iodide than he perhaps has. It seems to lower blood pressure in some way, probably by aiding in elimination. I would fully endorse the Doctor's remarks about the inadvisability of telling patients too much about their pressures, as, by so doing, we are apt to raise a race of hypochondriacs. When the blood-pressure remains high in spite of careful dieting and drugging, etc., and the patient suffers from headache, dizziness and other symptoms due to the pressure or the toxemia which is back of it, then no treatment will, in my opinion, give such good results as venesection. The removal of fifteen to twenty ounces of blood produces an amelioration of the condition which may remain for months. As to how it acts, we are not clear; it may be by the removal of toxins, but the effect is undoubted and most lasting.

Dr. McMahon discussed the subject of blood-pressure from the life insurance standpoint:

The use of the sphygmomanometer in life insurance has become common during the past five years, and many companies are now trying to get blood-pressure reports, especially on applicants over forty years of age.

Statistics are yet meagre, the best being those of Dr. J. W. Fisher, of the Northwestern Mutual. He now gets blood-pressure

reports in about 85 per cent. of his examinations, and his report covers the period from August, 1907, to January 1st, 1911, and all the actual deaths to July 1st, 1912.

He finds that average blood-pressure of accepted risks for ages 15 to 39 is 125.20 mm.; for ages 40 to 60, it is 130.17.

Every care was taken to trace the subsequent history of the rejected risks, and the work seems to have been thoroughly done.

Tables showing the percentage of actual to expected deaths at the different ages were quoted, and the general results were summarized as follows:

(1) Accepted risks, with blood-pressure 140 to 149, total number 2,668. From the general experience of the company the deaths would number 53.065. The actual deaths were 58. The percentage of actual deaths to those expected from the Company's general experience was 109.30.

(2) There were 525 risks accepted with a blood-pressure from 150 to 160, and an average blood-pressure of 152.58. The expected deaths were 13.443. The actual deaths were 22. Percentage of actual to expected deaths, 163.65.

(3) There were 723 rejected risks whose average blood pressure was 171.03 (all ages). According to the Company's general experience, the deaths expected in this group would be 14.314. The actual deaths traced were 51. The percentage of actual to expected deaths was therefore 376.46.

In other words, the mortality in all the cases with abnormally high blood-pressure was from 9.30% to 276.46% in excess of the estimated general average of the Company during the same period.

These startling results seem to indicate the importance of the use of the sphygmomanometer in the life insurance examinations. Great care must be taken to do no injustice to those whose blood-pressure is abnormally high from transient causes.

Where there is no other impediment to acceptance except high systolic pressure, repeated examinations should be made, if possible, before coming to a decision.

There can be little doubt that careful reports on blood-pressure will enable the companies to weed out a dangerous class of risks, which are now accepted at the ordinary rates.

Dr. Jos. S. Graham said: I have listened with great interest and profit to Dr. Third's admirable paper, and have been especially interested in the causative factors that he enumerates in the production of arterio-sclerosis. Neither he nor Dr. Henderson referred to specific disease in discussing the etiology of this disease. Possibly syphilitic arteritis should be considered as a separate entity and not included under the head of arterio-sclerosis; but if we depend solely on the history of the patient, we should find a large number of these cases classed as arterio-sclerosis, with the more restricted meaning of the term.

In a list of eight cases suffering with aortic and coronary disease, with general arterio-sclerosis, only two gave a history of syphilis, while seven gave a positive Wassermann reaction, and the Wassermann reaction was not done on the eighth. In a list of eighteen cases of aortic disease, collected by one of my friends, only two gave a history of syphilis, while the whole eighteen gave a positive Wassermann reaction. In all these instances there was apparently no effort made to dodge the truth. Faulty memory and inattention to such disorders may be accountable for the result.

Percussion in the second interspace gives us a fairly accurate idea of the width of the aorta, with the superior vena cava, that can readily be verified by the X-ray. Normal dulness we found to be from two to two and a half inches in the adult. X-ray plates were taken of the normal, which verified this. The method of taking the picture was in each case the same, the tube being exactly 27 inches from the plate. The amount of distortion is so slight that it may be disregarded.

I now gathered together all the X-ray plates taken of the complete thorax during the past three years, and of these there were eighty. I then gathered together the plates showing changes in the aorta, and all these giving a shadow in the second interspace of greater width than 2 3-4 inches. Of these there were thirty-two. It was fairly easy to eliminate enlarged bronchial glands and mediastinal new growth from the type of edge of the shadow, and from the curve of the aorta. This I shall demonstrate later.

My eight cases were included in this number, and it seemed reasonable to suppose that all cases of increase in dulness in

the second interspace, when the increased dulness was not caused by enlarged bronchial glands or mediastinal new growth, as shown by the X-ray, might be classed as arterio-sclerosis due to syphilis.

However, it did not turn out as I supposed. There were some exceptions: two cases which showed a succulated aneurism, with a width of under 2 1-2 inches, with a positive Wassermann reaction, and one case of these with dulness with a negative Wassermann.

On the whole, however, it is strongly presumptive of specific disease if, in a patient suffering from arterio-sclerosis we find a dulness in the second interspace of 2 3-4 inches or over, and find, with the use of the X-ray, that this increased dulness is due neither to enlarged bronchial glands nor new growth.

The X-ray plates that I have brought with me to-night show these different conditions very clearly, and here I beg to acknowledge my indebtedness to Mr. Fernow of the Toronto General Hospital.

Dr. V. E. Henderson, in discussion, commented on the excellent character of the paper, and said that he could contribute little to the clinical side of the subject, but would like to call attention to some recent suggestions as to the etiology and therapy of this interesting condition. He then described how Klotz and Harvey had shown that such comparatively brief and slight increases of blood-pressure as might be obtained by holding a rabbit up by the ears, or compressing the abdominal aorta, if persisted in for a few minutes each day for a period of a few weeks, would lead to a subsequent degeneration of the aorta and changes in the vessels analogous to the intimal arterio-sclerosis of man. The lesion only reaching its full development some weeks or months after the treatment has ceased.

It was suggested that similar arterial strain and degeneration in man might be caused in one of two ways. Cannon and Elliot have both shown that emotional disturbance causes secretion of adrenalin, which, by acting on the arterial musculature, would lead to increased blood-pressure, hypertrophy and degeneration. This action would be likely to be greatly increased by the hypersecretion of the thyroid (slight Basedow disease) so common in

women at the climacterium. And in this connection the cases reported by Dr. Third were very interesting. Dale, Küster and others have shown that, from certain of the amino-acids ordinarily formed in the course of digestion, the action of bacteria produced substances that caused constriction of blood-vessels. Such are the substances known as Tyramine, produced from Tyrosine; Histamine, from Histidine, and Argentamine, from Argenine. Twort and Mellanby have indeed isolated from the intestinal tract a bacillus with this action. Were these bodies produced in abnormal amounts, or were their destruction imperfect, they might readily cause the abnormal changes.

In regard to therapy, little that was new could be brought. Iodides, as shown by Romberg, decrease the viscosity of the blood, but the value of this effect could hardly be estimated.

The usual Section Meetings took place on March 3rd, 6th, 11th, 18th, 25th and 27th. The following were the programmes of the Section Meetings:—

The Section of Ophthalmology and Oto-Laryngology, on Monday, March 3rd, was a clinical evening, consisting of the presentation of cases and their discussion.

The Section of Pediatrics met on Thursday, March 6th, in the Hospital for Sick Children.

I.—Clinical Cases:

(a) Convulsions in a boy of 13, treated by decompression—recovery. Allan Baines.

(b) A case of Diplococcic Meningitis, treated with serum —recovery. W. B. Thistle.

II.—Reports on three cases of Bronchiectasis. Wm. Goldie.

Section of Medicine, Tuesday, March 11th. Clinical Cases and Case Reports:—

I.—Bilharziosis. Geo. E. Smith.

II.—General Fibrosis of the Lung (non-tuberculous). W. Goldie.

III.—Osteitis Deformans. Goldwin Howland.

IV.—Acromegaly. Julian Loudon.

V.—Addison's Disease. R. J. Dwyer.

VI.—Report of two cases of Syphilitic Paraplegia, showing marked improvement after the administration of Neosalvarsan. W. B. Thistle.

Section of Surgery, Tuesday, March 18th. Cases were presented by: G. A. Bingham, C. B. Shuttleworth, Arthur Wright, B. Z. Milner, H. A. Beatty.

Section of Pathology, Tuesday, March 25th, in the new Pathological Building, University Avenue.

I.—Autopsy specimens.

II.—Sections of brain from a case of General Paralysis. Robert G. Armour.

III.—Hemolytic power of extracts of the organs in Pernicious Anemia. Fletcher McPhedran.

Section of State Medicine, Thursday, March 27th.

I.—The Advantages of clearing Diphtheria contacts on two negative Swabs. C. J. O. Hastings.
Discussion. John A. Amyot.

II.—A more liberal use of Antitoxin in the treatment of Diphtheria. M. B. Whyte.
Discussion. Wm. Goldie.

III.—The Control of Tuberculosis from the Provincial Standpoint. John W. S. McCullough.
Discussion. J. H. Elliott.

Medical Jurisprudence

MALINGERERS AND MALINGERING

Among the many difficulties that beset the practician of medicine, not the least are those presented by the folk who simulate disease. One branch of this troublesome breed embraces those who seek to secure monetary balm for injuries they never received. The transportation companies pay a heavy toll to this species of graft, and usually find it advisable to settle if there is a plausible case presented by the alleged victim, rather than incur the expense of a suit, with the sympathy of the community on the plaintiff's side. Why the railways, which confer such incalculable benefits on the community, should so mismanage as to have public opinion invariably arrayed against them is another story, and one that will be told when a manager is developed who will appreciate the money value of public sentiment and adopt the easy methods of winning it.

More closely touching our personal interests are the malingerers who turn on their benefactors and seek "damages" from the doctor who has faithfully given his best efforts to cure them. Malpractice suits are rarely entered against the illiterate pretenders, but the victims are naturally sought among the prominent members of the profession who possess wealth of which they may be mulcted. Yet the method in such selection never repels the public, which too often sides with the plaintiff, instinctively. The reason for this attitude is not generally appreciated, but becomes apparent upon reflection.

The average man resents any real or implied assumption of superiority. The formation of an exclusive guild, separated from the masses by the constantly lengthening scholastic term, puts the physician out of touch with the people.

"The doctor has attended college until his youth is past; he is a creature of science; he smells of the laboratory, the micro-

scope, vivisection, serums, and that terrifying last chance, the operation. His fees are scarcely less appalling, for medical education is over-costly in money and years. He is a being apart, to whom common men must doff the hat. Naturally so lofty a being can have little sympathy with poor, hungry, dirty, everyday humanity, can have little appreciation of our conditions, needs, possibilities. But Billy, here, the druggist on the corner, or Sam, who taught himself how to doctor horses, he is one of us. We accept with unaffected delight the notion of taking a rise out of his toplofty highness; but Billy and Sam belong to that greatest of guilds, ourselves, and they have done the best they could, so that to blame them for not knowing more never occurs to us. Dr. Lofty, A.B., A.M., M.D., and all that long string, claims to know it all; so let him stand for it. He charged old Heath $500 for operating on him, and Heath had to mortgage his shop to pay the bill." Thus they muse.

This anti-professional sentiment is part of the great world's schooling by which the rough corners of men are rubbed off. Pretense is eliminated when assumption is challenged, and a man must make good or go back to his place. It is the law—the highest of laws—touching that fundamental truth that Darwin reached when he recognized the struggle for existence, and which Emerson realized in his law of compensation.

There is another form of malingering to which we may turn with less solemn mien. A clipping before me tells of a woman 72 years of age, bedridden for five years. The house took fire and her daughter carried this old woman, from the top floor to the street, on her back. Then the invalid found herself possessed of strength to walk a block to a friend's, and after the fire was out to walk back and up to the fifth storey, unassisted. Reminds me of a case. A woman, aged 35, weakly, brainy and cultured, but not pretty, years separated from a dissolute husband but not divorced, with no child to distract or occupy her life. She was penniless, earned a scanty living, by the aid of constant tonics; had nothing to live for or expect from life. She was a superfluous woman: so she took to her bed, and at last accounts had occupied it for five years.

Why not? What else could she do? Sexless she had ever been. She had no active interest in life, no wish to die. She

bided her time. Some day, as the years go by, there will arise a new cult, a new prophet. She will attend his preachments, his hands will be laid upon her head in healing, and a new miracle will be worked. This woman who has been bedridden, lo, these many years, rises up and walks, cured in an instant and without resort to those ungodly doctors or their devil-created drugs. She is famous; her name gets into the papers, and willing hands are thrust into the pockets and endow her with the means of sustaining life, and maybe even luxury. Life has an object, now that she is lifted out of the ruck and made an object of public interest.

But, what was there to treat, since there was nothing the matter with her? She simply lay abed because she did not care to get up and work. What she needed was some incentive to live and to work. If some man had married her in her younger days, and left a fine boy to whom she could have devoted herself, she would have been cured. No such thing happening, she could only wait till the opportunity to enact the role of the miraculously cured came along.

The world is full of women who are invalids for want of a sufficient reason for being well, strong enough incentives to life and activity, to working and scheming, to occupy to the full their faculties.

Is it not the duty of the physician to find remedies for such conditions, as much as to stimulate a failing heart or tone a weakening nerve? Neither laboratory nor textbook aids us here. There is something beyond these crude helps. The great book of nature must be studied. It is psychology, anthropology, sociology, cosmology to which we must turn. Make the woman an active, useful member of society. Give her something to live for so absorbingly interesting that she will forget herself. Let her *want* something as energetically as did Cushman at Gettysburg, when he held up his protruding bowels with one hand while with the other he fired the gun one more time into the faces of the advancing foe.

Some of the most exquisite laces and tapestries have been produced by shut-in, bedridden women. Clark fought down the agonies of cancer to complete his last book. Anstie struggled against the pangs of angina pectoris to give the profession its best treatise on that malady. From her sick-bed Elizabeth

Barrett Browning sent out her messages of love and human kindness. Alexander Pope ruled the literary world of his day with a body held together by the utmost art of the contemporary practician. De Quincey and Poe gave the world their delightful creations, from bodies racked with suffering, and unwittingly taught another lesson to the illuminate, for intentioned with each exquisite figure struggled the dark and sinister opium-demon.

No woman is, or can, be in good health—physical, mental and moral—who has not somebody or something for which she cares more than for herself.—*American Journal of Clinical Medicine.*

Surgery

RECENT ADVANCEMENT IN THE ROENTGEN RAY DIAGNOSIS OF DISEASES OF THE GENITO-URINARY TRACT

BY WILLIAM H. STEWART.

Visiting Physician, Roentgen Ray Department, German Hospital and Dispensary; Radiologist, Harlem and Fordham Hospitals, New York.

NOWHERE has the use of the Röntgen Ray made greater strides than in the recognition of lesions in the genito-urinary tract.

Given a case with symptoms suspicious of calculus or obstruction, we first examine the entire tract on both sides. It is necessary that the entire tract be covered, as it is well known that clinical symptoms frequently occur on the side opposite to the one where the obstruction by a calculus is found. In order to do this it is not necessary to make five radiographs. With proper compression, by means of a rubber bag, suggested by Dr. E. W. Caldwell, I am able to show the complete genito-urinary tract on both sides on two plates. If the examination is positive, the suspicious shadow being apparently within the kidney, the confirmatory examination, which should always be made, is taken stereoscopically; thus we can, with few exceptions, give a definite location of the calculus within the kidneys. If, however, the shadow of the stone is seen to be considerably outside of the normal zone of the kidney pelvis, and the surgeon desires more accurate information as to its location, then the use of a collargol injection is called for, and the radiograph, when taken stereoscopically, will give the exact relation of the kidney pelvis to the calculus. Care should be taken, however, as the collargol may overshadow the stone and lead to error. If the suspected shadow lies within the normal line of the ureter, a stereo-radiographic confirmatory examination should be made after a stylcted catheter has been introduced; this will demonstrate the presence of the calculus within the ureter.

The use of the catheter in suspected cases in which the shadow is above the bony pelvis is not always necessary, as the shape, size and location combined with the stereo examination, will almost always give us positive findings. Below the crest of the ilium, however, the stylet is frequently absolutely necessary, as it is in this locality that we have so many adventitious shadows simulating a calculus, the most common of which are fecal concretions, spiculæ of bone, small calcareous bodies called phleboliths, folds of intestines, foreign bodies, drugs in the gastro-intestinal tract, and calcified arteries and glands.

Experience has taught us that the case must be examined stereoscopically with the styleted catheter retained, as I have seen two cases where on the flat plate the suspected shadow was directly in the line of the stylet in the ureter; but, when a stereo was made the shadow was found to be well outside the urinary tract. If the patient, as frequently happens, objects to the use of the catheter, we must depend upon the stereo-radiographic examination alone; this as a rule will show the shadow within the ureter, as lying well forward in the pelvis, while most of the extra-ureteral conditions lie deeper or to the side; the size and shape of the shadow greatly aids us in our diagnosis. By these means we can seldom err when our preliminary examination is positive.

Where our original examination is negative and the clinical symptoms persist, it is probably due to one of two things—either the calculus is composed of pure uric acid, which does not show in our radiographs, or we are dealing with a case of ureteral kink. In the first instance, it is possible that occasionally we may have a pure uric acid stone (I have seen only one case in my experience). I believe, however, that in the majority of cases that are reported, this explanation is used to cover up errors in interpretation or poor radiographs.

When ureteral kink was suggested as the explanation why many symptoms of obstruction persisted after negative X-ray findings, the Röntgenologist set about to discover a method whereby he could detect this frequent trouble. I believe Fölcher and Lichtenberg, in 1906, were the first to publish a report

of several cases in which five per cent. collargol solution was used for injection into the pelvis of the kidneys and ureters to demonstrate their outline. Since then the method has been so perfected that the reproduction on an X-ray plate of the renal pelvis and lumen of the ureters, with possible constrictions, has become an established mode of procedure. Still one drawback remained, for in some cases in which the collargol injection demonstrated a slightly enlarged renal pelvis with an apparently normal ureter, the symptoms of colic and obstruction continued.

Stover, of Denver, and Percy Brown, of Boston, working on these lines, observed that the probable reason why we were not able to show all ureteral kinks was the fact that we were examining our patients in the prone position, so that the kidneys dropped back and the kink was temporarily relieved. Thus we were confronted with the problem of making a radiographic examination of the ureters and renal pelvices, injected with a solution of collargol, while the patient maintained an erect position. This examination I have been able to make by means of a special table, and thus many obscure cases of obstruction have at last been cleared up.

The ability to give good kidney outlines in cases of enlargements or displacements depends largely on the proper preparation of the patient for the examination. This is of the greatest importance, and should be as follows: A dose of castor oil two hours after the evening meal the night before examination; on the following morning a light breakfast of coffee and roll at 7 a.m.; at 10 a.m. one or two colon flushings until the return is clear, the abdomen relaxed and the bowel free from gas. The examination to be made at 12 noon. It is especially desirable to rid the colon of all intestinal gas, as the dark shadows from the same obscure the light kidney outlines. This is more liable to happen on the right side, where the ascending colon comes in closer contact with the kidney.

If the patient is not too obese, and has been properly prepared, we can, with short exposures and careful compression, produce in the majority of cases a clear kidney shadow.—*Archives of Diagnosis.*

Selected Articles

STERILIZATION OF THE UNFIT

New questions in sociology are continually arising. Ten years ago few outside a small group of experts discussed or attempted to pass judgment on such a question as the sterilization of the feeble-minded and of certain types of criminals. Now, however, the larger public is forced to give some thought to this matter, because it has suddenly leaped into amazing importance, and the procedure has not only found enthusiastic advocates, especially among physicians and so-called eugenists, but it has even become a legalized part of criminal practice in certain States.

Indiana, Washington, Colorado, Connecticut, Nevada, Iowa, New Jersey and New York have all passed laws which provide for some form of sterilization of defectives and of certain criminal types. In Pennsylvania, a similar bill was vetoed by the Governor, and in Kansas and Nebraska the experiment with such methods of dealing with sexual offenders has been temporarily abandoned. The New Jersey law has been very carefully planned to avoid abuse, but has not been in effect long enough to warrant conclusions as to its practical outcome. Indiana has given the sterilization plan a seven years' trial, and in the reformatory at Jeffersonville about three hundred men have been thus operated on.

The medical profession is inclined to look with favor upon such legislation, to judge by recent editorials in the medical journals. The lawyers are also studying the question. The American Institute of Criminal Law and Criminology, at a meeting recently held in Milwaukee, received the report of a committee which had been appointed by the Wisconsin branch of the Institute to look into the question of the sterilization of defectives and certain types of criminals. The report considers three methods by which the propagation of the defective can be prevented, namely, regulation of marriage, which is approved,

but held to be of comparatively slight effect; sequestration, which if perfect would be absolutely effective, but the committee doubts if it is either possible or desirable to make it perfect; and, finally, sterilization, which last is not recommended or condemned, the committee simply summarizing the laws bearing on it in the different States.

To anyone reading the report carefully, it would seem that the committee makes a rather sweeping classification of people who are regarded as defectives and unfit to propagate their kind. One would hesitate to class epileptics, neurotics, drunkards, and paupers together with the insane, feeble-minded, and criminal. It is only necessary to remember Max Nordau's famous book on degeneracy to recognize that some of the world's greatest geniuses have belonged to one or more of these classes. Indeed, in considering this question of the breeding of the "unfit" one of the first things that strikes us is the lack of a standard of fitness. We would all probably agree that the insane and feeble-minded should be restrained from bearing or begetting children, but would we be willing to apply this same restriction to all who suffer from functional derangements of the nervous system?

In the writings of physicians it is usually assumed that "the fit" means the physically fit, and a careful perusal of recent literature on eugenics shows that this is true of the utterances of many followers of this new science. But the student of evolution has never held that the survival of the fittest meant the survival of the most nearly perfect physical animal, but only of the animal best adapted to his environment. In a highly civilized society the intellectual neurotic with poor physical development may be better fitted for the struggle for existence than is the hardy peasant from a simpler civilization. It may be urged that this is deplorable and a proof of national decadence; still there was once a nation which made health and a well-rounded physical development the only test of fitness, and the Spartans have left the world no heritage of art, ethics, philosophy or literature, only a tradition of physical courage and endurance hardly superior to that of the American Indian.

Among the many discussions concerning the forcible prevention of the breeding of the unfit we hear occasionally a voice raised in protest to warn us that by adopting such measures the state may be diverted from a sense of its responsibility in regard

to those conditions which produce criminality and degeneracy. These objections were voiced movingly by Peter Kropotkin at the Eugenics Congress in London last August.

To quote part of his speech:

"I came this morning with the intention of expressing my deep regret to see the narrow point of view from which eugenics has been treated up till now, excluding from our discussions all this vast domain where eugenics comes in contact with social hygiene.* This exclusion has already produced an unfavorable impression upon a number of thinking men in this country, and I fear that this impression may be reflected upon science altogether.

"Before science is enabled to give us any advice as to the measures to be taken for the improvement of the human race, it has to cover first with its researches a very wide field. Instead of that we have been asked to discuss not the foundations of a science which has still to be worked out, but a number of practical measures, some of which are of a legislative character. Conclusions have been already drawn from a science before its very elements have been established.

"Thus, we have been asked to sanction, after a very rapid examination, marriage certificates, Malthusianism, the notification of certain contagious disease, and especially the sterilization of the individuals who may be considered as undesirables.

"In my opinion, Professor McDonnell was quite right when he made the remark that it was untimely to talk of such measures as these at a time when criminologists themselves are coming to the conclusion that the criminal is "a manufactured product," a product of society itself. He stood on the firm ground of modern science. I have given in my book on Prisons some striking facts, taken from my own close observation of prison life from the inside, and I might produce still more striking facts to show how sexual aberrations described by Krafft Ebing are often the results of prison nurture, and how the germs of that sort of criminality, if they were present in the prisoner, were always aggravated by imprisonment.

"But to create or aggravate this sort of perversion in our

* Kropotkin uses this term in its literal significance, a significance we in this country have almost forgotten, as with us it has come to signify the control of venereal diseases.

prisons, and then to punish it by the measures advocated at this Congress, is surely one of the greatest crimes. It kills all faith in justice; it destroys all sense of mutual obligation between society and the individual. It attacks the race solidarity—the best arm of the human race in its struggle for life.

"Before granting to society the right of sterilization of persons affected by disease, the feeble-minded, the unsuccessful in life, the epileptics (by the way, the Russian writer you so much admire at this moment, Dostoyevsky, was an epileptic), is it not our holy duty carefully to study the social roots and causes of these diseases?

"When children sleep to the age of 12 and 15 in the same room as their parents, they will show the effects of early sexual awakenings, with all its consequences. You cannot combat such widely spread effects by sterilization. Just now 100,000 children have been in need of food in consequence of a social conflict. Is it not the duty of eugenics to study the effects of a prolonged privation of food upon the generation that was submitted to such a calamity?"—*The Survey.*

News of the Month

DR. E. E. KITCHEN—1842-1913

Dr. E. E. Kitchen, of St. George, in the County of Brant, Ontario, died at his residence on February 19th last, 71 years of age. The late Dr. E. E. Kitchen was graduated at the University of Toronto as M.B. in 1865 (Silver Medalist), and in the following year became a member of the College of Physicians and Surgeons of Ontario, and subsequently conducted his practice with success at St. George and in the neighboring parts of Brant. Owing to his sound judgment and large clinical experience, he enjoyed the confidence and esteem of a large circle of friends and patients. He was examiner in hygiene for three years at the University of Toronto. He was a surgeon of the Grand Trunk Railway Company during nearly all his more than forty years of practice. He was for many years a member of the Provincial Board of Health of Ontario, and for three years—1903-06—acted as its Chairman, during which time he earned the respect and good-will of his colleagues for his gentlemanly demeanor and his earnest efforts to enlarge the scope of hygiene in this Province. Dr. Kitchen's funeral, which took place on the afternoon of February 21st last, to the Methodist Cemetery at St. George, was very largely attended.

INSTRUCTOR FOR MIRAJ MEDICAL SCHOOL

A teacher of Physiology, Chemistry, Physics, Biology and Bacteriology is needed to work in connection with the Presbyterian Mission Hospital Medical School and Leper Asylum at Miraj, West India. A man who has a knowledge of X-ray work is preferred.

This hospital is under the direction of Dr. W. J. Wanless. A statistical summary indicates the extent of the work:—

Outdoor patients—treated, Miraj	9,812
Outdoor patients—total treatments	23,771
Outdoor patients—out-stations	7,581
Outdoor patients—total treatments	13,326
Total treatments, Miraj and out-stations	37,097
Visits to sick in their homes	117
Indoor patients—treated, Miraj	1,735
Indoor patients—treated, Vita	72
Surgical operations performed at Miraj (major)	1,700
Surgical operations performed at Miraj (minor)	1,034
Surgical operations—out-stations (mostly minor)	415
Eye operations performed, Miraj	1,607
Total operations performed, Miraj and out-stations	3,189
Chloroform and ether administered, times	1,134
Local anesthesia employed	1,607
Medical cases treated in hospital	279
Surgical cases treated in hospital	1,466

There is a good department of nursing; a new septic ward is being constructed, with accommodation for eight patients; new medical school buildings will soon be opened to comprise a new clinical building to include new Out-patient Department, with consulting rooms, dispensary, class-rooms, clinical laboratory, lecture hall, two eye wards, with 24 beds, and an ophthalmic operating room.

There is to be also a laboratory building for teaching purposes, containing anatomical room, chemical, physiological and pathological laboratories, an X-ray plant, and a museum and library. The erection of this building is to begin when the clinical building is completed.

The medical graduate who is appointed to this position will have opportunities for practice as an assistant in medicine and surgery, though the major part of his time will be taken up with teaching.

A man who is looking forward to permanent service as a medical missionary, and who proves satisfactory in this position, would have opportunity for locating permanently if he desired to do so.

Traveling expenses and living quarters are provided in addition to $50 monthly salary. The terms: a three-year appointment, with the privileges of renewal of contract with two or three additional years, if mutually agreeable.

Christian men who wish to investigate this opening should send full particulars regarding their qualifications to Mr. Wilbert B. Smith, 600 Lexington Avenue, New York City.

ONTARIO HEALTH OFFICERS' ASSOCIATION

The Annual Meeting of the Ontario Health Officers' Association will be held in the Parliament Buildings, Toronto, May 29th and 30th, at which all the Medical Officers in the Province are required to attend, as provided in Section 42 of the Public Health Act.

Arrangements are being made for reduced rate on the principal lines of railway, and a large attendance is expected.

The programme will be issued at an early date.

Dr. A. H. Wright, *President.*
Dr. J. W. S. McCullough, *Secretary.*

MUDLAVIA'S NEW MEDICAL DIRECTOR

The Medical Department, the most important at Mudlavia, is now under the direction of Dr. George F. Butler, who, at home and abroad, is well known for his high professional standing and for his books on therapeutics, public health and sex hygiene. As a sanitarian and an authority on public health and preventive medicine, he is well known. He is a man of literary culture, and a fluent writer.

For the past year Dr. Butler has been county physician to Cook County; he has had direct charge of the Chicago Detention Hospital for the Insane, and has held the post of Medical Advisor to the Board of County Commissioners. Aside from his public duties, Dr. Butler is Professor and head of the depart-

ment of Therapeutics and Professor of Preventive and Clinical Medicine in the Chicago College of Medicine and Surgery. In accepting the position of Medical Director of Mudlavia, he will free his time from all professional work in Chicago, although he will continue his college work. He has been fully consulted in the whole formulation of the plans toward placing Mudlavia in the front ranks of scientific medical sanatoria.

The general plan includes every phase and department of up-to-date, scientific diagnosis and therapy. Dr. Butler's purpose will be to treat each case upon its individual merits; treatment will not be routine, but based upon individual conditions, once those conditions are determined, giving each case whatever treatment will most directly apply. The staff will administer the most approved methods of treatment.

This system will commend itself at once to physicians having difficult or obdurate cases that need special care in perfect surroundings. The buildings are ample and very handsome, with none of the atmosphere of invalidism which operates so depressingly in some health resorts. The self-examining valetudinarian will find his mind diverted to external things in an environment of hopefulness and optimism.

Chicago is only a few hours away, and everything a great city affords can be had without racking annoyance of crowds. It is necessary first to be free of the obtrusion of illness, visually or by atmosphere or suggestion. In that enfranchisement of thought and feeling the physician's work begins to tell at once and helps itself to build toward successful issues.

HISTORICAL MEDICAL EXHIBITION, LONDON, 1913

Among other historical medical objects of exceptional interest that have been secured for the Historical Medical Exhibition, organized by Mr. Henry S. Wellcome, and which will be opened in London during the meeting of the International Medical Congress in the coming summer, are many personal relics of Dr. Edward Jenner, the discoverer of vaccination. These include the original lancets and scarifiers he employed during his first experiments, his case and account books, his snuffbox, medicine

chest, and many other interesting articles. A large collection of autograph letters of Jenner's, some of unique interest, have also been loaned, together with the armchair from his study, and in which he died. Other objects connected with the life of Jenner are also to be exhibited, including many valuable portraits of himself and family, painted at different periods, the illuminated addresses presented to him, together with the freedoms of the cities of London and Dublin, also medals, and other documents of special interest.

Concerning the history of anesthesia, many interesting relics are to be exhibited, beginning with the original autograph journal and manuscripts of Henry Hill Hickman, F.R.C.S., the discoverer of the application of the principle of anesthesia by inhalation for surgical operations, which he proved by actual experiments on animals in 1823. Personal relics of Sir James Simpson, and some of the earliest forms of apparatus for administering chloroform and ether will constitute an exhibit of more than usual interest.

Those who may possess any objects of a similar character connected with the history of medicine and the allied sciences, and who would be willing to loan the same, should communicate with the Secretary, 54A Wigmore Street, London W., who will be pleased to forward a complete illustrated catalogue to anyone interested.

THE AMERICAN ASSOCIATION OF ORIFICIAL SURGEONS

The spring clinic of the American Association of Orificial Surgeons will be held in the Surgical Amphitheatre of Hering Medical College, corner of Wood and York Streets, Chicago, Ill., April 23-4-5-6. Dr. E. H. Pratt, A.M., M.D., LL.D., and assistants will operate on clinical patients, demonstrating the fundamental principles of Orificial Surgery as applied in the treatment of chronic diseases and as an adjunct to major surgery in general.

On April 26th, the fourth and last day of the clinic, Dr. Pratt and assistants will demonstrate other therapeutic measures which have been recently introduced to the medical profession; including abdominal calisthenics, manual therapeutics, high frequency

treatment of internal organs, spondylotherapy and new hydrotherapeutic measures. These measures will be introduced and demonstrated not as curative measures within themselves alone, but as adjuncts to the ordinary armamentarium of the physician.

Tuition to this clinical course is free to all practising physicians, medical students and nurses.

Physicians are invited to bring clinical cases for operation. No operating fee will be charged. Excellent hospital accommodations will be provided. Opportunity will be presented for the physicians bringing clinical cases to assist personally in the operation.

The clinic headquarters will be the Hotel La Salle, where reservations may be made in advance. For further information address the Secretary of the Association, W. A. Guild, Des Moines, Iowa.

PERSONALS

Dr. Emerson J. Trow, late Senior Resident Physician, New York Skin and Cancer Hospital, has commenced practice at 21 Wellesley Street, Toronto, and will confine himself to diseases of the skin.

Dr. A. D. McKelvey, Toronto, '08, formerly House Surgeon, Toronto General Hospital, and for the past two and one-half years Senior Resident Surgeon, Massachusetts Charitable Eye and Ear Infirmary, and Assistant to Out-Patient Laryngological Department, Massachusetts General Hospital, leaves this month for an extended visit to the clinics of Vienna, Berne and Berlin.

A PERSONAL IMPRESSION OF DR. FRIEDMANN

To the Editor—Everything of importance connected with Dr. Friedmann's alleged "cure" for tuberculosis has been fully set forth in *The Journal*. But for the fact that the many newspaper reports are confusing to some doctors as well as to the public, I would not write this letter.

I have just returned from Europe where I spent two months. I was alert to learn all I could about Dr. Friedmann and his remedy. I questioned both German and American medical men as to what they had seen or heard from others. I visited the doctor's office; I crossed on the same vessel with him and talked with him his assistant, Dr. Benjamin, and his press agent, Mr. Hundt; I saw some of his patients at his office and met others and their friends at their hotels.

What evidence is there to support Dr. Friedmann's claims? Dr. Friedmann has publicly declared that no one but himself knows what his remedy is; he has given it to no one, and hence all evidence must come from him. His only published report must be regarded as entirely inadequate. In fact, all his reports are indefinite. He gives varying accounts of the number of cases treated. The statements as to the character of cases and the percentage of cures are equally indefinite. He showed me ten patients at his office, the first a boy claimed to be cured of tuberculosis of the bones of the hand, and the second claimed to be cured of a similar affection of the knee. Instead of showing me a record he had the mothers detail to me the histories, how they had applied to others without relief and finally were cured by Dr. Friedmann. These patients had been well a year and a half, and as the same patients were exhibited to other physicians at different times during the preceding month, I am sure they were "show cases," for there was no necessity for frequent visits to the clinic for cured cases. The other patients gave no evidence of special improvement. Most of them said they were no better, nor were any whom I visited in their hotels. Dr. Friedmann says that whenever the exudate which forms at the site of the injection begins to be absorbed, the patient always improves. I saw five patients in whom this was not the case.

I was struck with the superficial examinations and meagre histories kept. I would not have mentioned this had it not been corroborated by a number of physicians, patients and friends who had made many visits to his office. In short, I did not see, nor could I hear of anything to indicate that Dr. Friedmann's patients were doing even so well as those with similar cases under ordinary treatment. He had not instructed any of those with whom I talked how to live, and I found all in unsuitable

surroundings and doing the best they could with the knowledge they had received before.

It is hard for me to express in calm language the impressions Dr. Friedmann, his clinic, and his method made on me. Dr. Friedmann has made great claims, but he has failed to submit them to any efficient test. The evidence of his own results, taken even as he gives it, falls far short. His conduct of secrecy as far as the profession is concerned, his appeal to the public press, his spectacular gift of his discovery to men of prominence, his trip to America with a press agent, in short, his whole attitude have been such as to excite distrust.

Edwin Walker, M.D., Evansville, Ind.

The Physician's Library

BOOK REVIEWS

The Ocular Muscles. A practical handbook on the Muscular Anomalies of the Eye. By HOWARD F. HANSELL, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College: and WENDELL REBER, M.D., Professor of Ophthalmology in the Medical Department of Temple University, etc. Second edition, rewritten, enlarged. Philadelphia: P. Blakiston's Son & Co. 1912.

This volume represents the essence of the lectures on this subject delivered by the authors at the Philadelphia Polyclinic. Ophthalmologists are divided into two camps over the Heterophorias; one believing exact correction of the refraction the cure, others swearing by surgical procedures. The truth probably includes both methods. The Heterotropias or various forms of strabismus, whether concomitant or paralytic, see a greater unanimity of practice but an equal variety of procedures. The diagnosis of the various paralyses of the extra-ocular muscles is, according to the authors, a very simple matter. There are some of us, however, who have not found it such smooth sailing. The authors are to be congratulated on the fair and judicial presentation they have given on this vexed and perplexing question of the ocular muscles.

Diseases of the Eye. A manual for students and practitioners. By J. HERBERT PARSONS, M.B., B.S., F.R.C.S.; Ophthalmic Surgeon, University College Hospital; Surgeon, Royal London (Moorfields) Ophthalmic Hospital. Second edition. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1912. $4.00 net.

A perusal of this manual forces one to regard it as the best students' manual which has yet appeared in English. There are

others of fewer pages which contain more facts, and yet others with more pages and less facts, but none known to us with the same true appreciation of what facts are within the grasp of the medical student, and what he should grasp.

The chapters on the examination of the eye are particularly apt in this respect; those on the diseases of the eye sufficiently brief, yet not too concise. Errors of refraction are left to the end of the book, while physiological optics and the functional examination are considered in the beginning—an arrangement which, although somewhat unusual, works out well practically.

E. Merck's Annual Report on Recent Advances in Pharmaceutical Chemistry and Therapeutics. Volume XXV. 1887—1911. E. Merck Chemical Works, Darmstadt. 1912.

In the present report special reference is made to the glycophosphates and to the digitalis group. A great deal of space—from page 130 to 457—is devoted to preparations and drugs. There is a General Index, an Index of Diseases, Symptoms and Indications for Treatment, an Index of Authors and a Bibliographical Index.

This Annual Report is presented, free of charge, to scientific institutions, libraries, clinics, physicians, etc. It is a meritorious publication, and practitioners should avail themselves of it.

J. J. C.

Golden Rules of Surgery. By Augustus Charles Bernays, A.M., M.D. (Hdlbg.), M.C.R.S., Eng; Life Member of the German Society for Surgeons of Berlin; Chief Surgeon, Lutheran Hospital, etc., etc. Second edition, revised and rewritten by William Thomas Coughlin, M.D., Assistant Professor of Surgery, University Medical School, St. Louis, Mo. St. Louis: C. V. Mosby Company. 1913.

This small volume of 281 pages is replete with many aphorisms which are founded on good surgical principles. The subjects covered include the technique of operations, anesthesia, shock, infections of wounds, and other subjects of general interest. In addition, there are several chapters devoted to special surgical procedures, such as those involved in the treatment of

fractures and dislocations, and in regional surgery of the head, thorax, abdomen, etc.

The book is written for "Students, General Practitioners and Beginners in Surgery." On the whole, we agree with most of the advice given, but sometimes the author is a bit radical, for example, when he makes the following statement:—

> "*Rest,* secured by means of poison injected into the human organism, is apt to do more harm than good. I am convinced that the administration of such drugs as belladonna, cocaine, morphine, strychnine, veratum, digitalis, and other poisons by even our most highly educated physicians, is wrong. I am convinced that the physician who uses these drugs upon his patients overestimates his own knowledge of the action of drugs, and nearly always has been misguided by his blind trust in textbooks on materia medica. I wish to go on record as being opposed to the general use of drugs in the treatment of disease."

A. P.

Health and Longevity Through Rational Diet. Practical hints in regard to food and the usefulness or harmful effects of the various articles of diet. By Dr. Arnold Loraud, Carlsbad. Philadelphia: F. A. Davis Co. 1912.

"What we eat, and why?" is a question that many people, including physicians themselves, would benefit by the asking. There is no question that the tendency of the present day is towards too free a diet, and one that is not well chosen, the result being that the human system is subjected to many unnecessary indignities, and life, in very many instances, cut short. What we eat and why we eat are timely questions, no doubt; but the manner in which we eat is equally important and worthy of investigation. We venture to say that if proper attention were given to the subject of diet, the services of the physician would be much less necessary; but, until such a time as the different classes of humanity realize that the different occupations call for different kinds of food, it is unlikely that the profession of medicine will be much interfered with.

The author of this book presents the profession with a treatise, the study of which must be most practical and helpful. The

volume is divided into 10 chapters, which deal with "The Influence of Food Upon Man"; "The Fundamental Laws of Rational Feeding"; "The Injurious Modes of Feeding"; "The Good and Evil Effects of Various Food Substances"; "Vegetarianism"; "The Practical Advantages of Rational Feeding"; "Hints for Those Obliged to Take Their Meals in Restaurants"; "The Increased Activity of Certain Functions Brought About by Food"; "The Increased Muscular Power Resulting from a Suitable Diet"; "The Relationship of Food to Old Age."

The book is worth buying. W. A. Y.

Vicious Circles in Medicine. By Jamieson B. Hurry, M.A., M.D., Cantab. With illustrations. Second and enlarged edition. London: J. & A. Churchill, 7 Gt. Marlborough Street. 1913.

This monograph consists of material that has already appeared in the old country medical press, covering, in all, about 250 pages. By a vicious circle, the author means "A morbid process, in which two or more disorders are so correlated that they reciprocally aggravate and perpetuate each other." We do not know of any other medical work along this line, the idea being decidedly new. The volume is divided into eighteen chapters, illustrated with 16 drawings, and, from a typographical standpoint, is well gotten out.

The Principles and Practice of Obstetrics. By Joseph B. DeLee, A.M., M.D.; Professor of Obstetrics at the Northwestern University Medical School; Obstetrician to the Chicago Lying-in Hospital. With 913 illustrations, 50 of them in colors. Philadelphia and London: W. B. Saunders & Co. 1913.

The author of this work has evidently kept before him the needs, not only of the general practitioner, but of the medical student as well. The volume is divided into three parts: The Physiology of Pregnancy, Labor and the Puerperium; The Pathology of Pregnancy, Labor and the Puerperium; and Operative Obstetrics. The book consists of over 1000 pages, and the illustrations are extremely good, especially the colored ones. As Professor DeLee says: "Diagnosis has been made a particular feature, and the relations of obstetric conditions and accidents to

general medicine, surgery and the specialties have been fully brought out." Best of all, the book is the result of the actual experience of the author for a period of 21 years, as a teacher of physicians, students and nurses. W. A. Y.

The Conquest of Nerves. A manual of self-help. By J. W. Courtney, M.D., New York. The MacMillan Company, 1911.

This little book is dedicated to the author's wife, and is naturally intended to appeal to a popular audience rather than to instruct the professional student; indeed, the author states that the object of his work is to teach those who need the counsel of the family physician, whose time is commonly so much occupied with other duties that he cannot attend to this function. There is no doubt about the truth of the author's doctrine that many of those who suffer from functional nervous diseases require an intelligent and scientific presentation of the conditions which daily affect their lives, and which either cause or contribute to their sufferings, and that "Self-Help" rather than therapeutic measures, will provide the surest road to greater comfort. Incidentally, the author examines the Christian Science doctrine and also the Emmanuel Movement and the New Thought Optimism, and his impartial and critical observations on these subjects will be very helpful, even to the scientific or professional reader. The remarks upon the necessary measures to be adopted for the preservation of the highest standard of physical health are sound, and this little work of 200 small octavo pages will be found useful in answering many problems which constantly perplex a large class whose sufferings are popularly attributed to "nerves." N. H. B.

The International Abstract of Surgery.

We had the pleasure of receiving recently the first number of the International Abstract of Surgery. This is one of the finest pieces of surgical literature that we have seen, and take the first opportunity of congratulating our friend, Dr. Franklin H. Martin, and his associates on that excellent journal, *Surgery, Gynecology and Obstetrics,* on getting out the first serious attempt to publish in English "a complete, comprehensive and authoritative review and index of the surgical literature of the

world." The magnitude of the task is very great. The publishers have entered into agreements with the editors of the three most important abstract journals of France and Germany, whereby they will exchange material. The first number of this important journal is highly creditable, and we wish its staff the highest degree of success.

The Care of the Insane, and Hospital Management. By CHARLES WHITNEY PAGE, M.D., Assistant Physician, Hartford Retreat, Hartford, Connecticut, 1871 to 1872 and 1875 to 1888; Superintendent Connecticut Hospital for Insane, Middletown, 1898 to 1901; Superintendent, Danvers State Hospital, Danvers, Massachusetts, 1888 to 1898 and 1903 to 1910; Member of the America Medico-Psychological Association, the Boston Society of Psychiatry and Neurology, the New England Psychiatric Society, the Massachusetts Medical Society, Boston. Wm. Leonard, publisher. 1912.

This little book should be read by every officer of every Hospital for the Insane in America, and by every Governor and Minister in charge, and by every member of every Governing Board having in hand any part of the administration of any Hospital for the Insane, either private or public. While this may appear to be a strong statement, it is really not as strong as it should be, for there is no question that honest and interested overseers of the administration of hospitals are often hindrances and stumbling-blocks in the way of the real progressive measures so earnestly advocated by the chief administrative officers. The want of continuity in Governing Boards and Governments and their officers is answerable for many mistakes and much waste of money and effort, and the author not only understands all these hospital problems, but he describes them lucidly and indicates clearly their solution. His observations in reference to Hospital Trustees and their selection, and also in reference to the duties and responsibilities and privileges of Medical Superintendents, as well as Assistant Medical Officers, contain a wealth of wisdom and experience, which should be of great value to all who have an interest in hospital management, and his comments on the care of patients and the officers' relationship to their relatives, are full of good counsel and good sense. The chapter

on Nurses and Attendants, and their character and training is the final word on the subject, and his plea for a larger public recognition of the value of their services and some increased compensation, is sound and strong. Rarely has a work more helpful to hospital officers and employees been published, and certainly all relatives of patients in hospitals will find much aid and comfort from the author's clear and fearless exposition of the many questions which so constantly perplex them.

N. H. B.

An Atlas of the Differential Diagnosis of the Diseases of the Nervous System. Analytical and Semeiological Neurological Charts. By Henry Hun, M.D.; Professor of Diseases of the Nervous System in the Albany Medical College; Member of the Association of American Physicians, the American Neurological Association, etc.; author of "A Guide for American Medical Students in Europe," "Syllabus of a Course of Lectures on the Diseases of the Nervous System," etc. The Southworth Company, publishers, Troy, New York. 1913.

These charts are carefully prepared and admirably designed to outline the principal symptoms of the various forms of nervous diseases, and by contrasting the allied forms with one another, to accentuate the symptoms especially belonging to each form. Every method of testing the disordered motor, sensory, reflex and mental activity is exhaustively employed, and in this way a subject which has so often been regarded as too difficult to master becomes a most attractive field of research, and nervous diseases which have discouraged so many students at once become simple and full of interest.

The method generally adopted by the most experienced teachers in the differential diagnosis of nervous diseases is to consider groups of diseases which present many symptoms in common, and gradually to apply such tests as will eliminate all others, until finally one individual disease stands out clearly among the remaining few with which it is so intimately related. It is the crystallization of this analytical method which these charts attempt to accomplish, and a careful study of them will show the student that the object of the author's years of laborious devotion to his task has been abundantly achieved. Time

and effort will be saved, and accuracy will be attained, by those who are fortunate enough to possess a copy of this unique and invaluable work. N. H. B.

A *Reference Handbook of the Medical Sciences,* embracing the entire range of Scientific and Practical Medicine and Allied Science. By various writers. Third edition, completely revised and rewritten. Edited by THOMAS LATHROP STEDMAN, A.M., M.D. Complete in eight volumes. Volume I. Illustrated by numerous chromo-lithographs and 611 fine half-tone and wood engravings. Nine hundred and thirty-six pages. Imperial quarto. The set: Muslin, $56; leather, $64; half-morocco, $72 (subscription). Wm. Wood & Co., Publishers, New York.

The first volume of The Reference Handbook was published in 1884, being followed at regular intervals, until 1887, when the eighth volume appeared. Six years after that a supplementary volume was issued, covering the progress made since Vol. viii. had come from the press. Between 1900 and 1904, a second edition came out under the same management as before, that of Dr. Albert H. Buck. Both editions met with a splendid reception. Four years after the second edition came out, an Appendix was published, and treated of Anaphylaxis, Opsonin Therapy, and other recent advances, under the editorship of the present editor, Dr. T. L. Stedman.

Now, much to the satisfaction of Wm. Wood & Co.'s many medical friends, a third edition commences, and, judging from Vol. I., it is going to outclass its predecessors. We notice that the same general plan has been followed. The system of cross-references is much more complete than before, being sufficiently lengthy to, in many cases, save the hurried reader the necessity of reading the article in its entirety. The articles have been completely revised; a good deal of space has been given to "The History of Medicine," and some most interesting biographies published regarding some well-known medical men.

Vol. I. consists of nearly 1000 pages, including about everything between "Aachen" to "Bacteriuria."

We wish our friend, Dr. Stedman, every success in so splendid an effort. W. A. Y.

LISTERINE

Listerine is an efficient, non-toxic antiseptic of accurately determined and uniform antiseptic power, prepared in a form convenient for immediate use.

Composed of volatile and non-volatile substances, Listerine is a balsamic antiseptic, refreshing in its application, lasting in its effect.

It is a saturated solution of boric acid, reinforced by the antiseptic properties of ozoniferous oils.

After the volatile constituents have evaporated, a film of boric acid remains evenly distributed upon the surfaces to which Listerine has been applied.

There is no possibility of poisonous effect through the absorption of Listerine.

Listerine is unirritating, even when applied to the most delicate tissues ; in its full strength it does not coagulate serous albumen.

For those purposes wherein a poisonous or corrosive disinfectant can not be safely employed, Listerine is the most acceptable antiseptic for a physician's prescription.

Listerine is particularly useful in the treatment of abnormal conditions of the mucosa, and admirably suited for a wash, gargle or douche in catarrhal conditions of the nose and throat.

In proper dilution Listerine may be freely and continuously used without prejudicial effect, either by injection or spray, in all the natural cavities of the body.

Administered internally, Listerine is promptly effective in arresting the excessive fermentation of the contents of the stomach.

In the treatment of summer complaints of infants and children, Listerine is extensively prescribed in doses of 10 drops to a teaspoonful.

In febrile conditions, nothing is comparable to Listerine as a mouth wash ; two or three drachms to four ounces of water.

"The Inhibitory Action of Listerine," 128 pages descriptive of the antiseptic, may be had upon application to the manufacturers,

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Church and Gerrard Streets Toronto, Ontario

NATURE DEPENDS UPON COPIOUS SUPPLIES OF WATER

THE *London Lancet* says that it is essential that there should be constantly passing through the organism a flushing, as it were, of fluid to hold in solution and wash away the products of dissimilation and waste. Those who do not recognize the fact that three-quarters of the weight of the entire organism is normally composed of fluid, cannot fully realize the great need which exists for a copious supply. The *Lancet* says: "If there be not a sufficient endosmose, the exosmose must be restricted, and effete matters, soluble in themselves, but not dissolved because of the deficiency of fluid available, will be retained. Take, for example, the uric acid, this excrementitious product requires not less than some 8,000 times its bulk of water, at the temperature of the blood, to hold it in solution, and if it be not dissolved it rapidly crystallizes with more or less disastrous consequences, as in gout, gravel, and probably many other less well recognized troubles. We only mention this particular excrement by way of illustration. In all it may be fairly concluded, that not less than three and one-half pints should be consumed by any person in the twenty-four hours, and when the body is bulky, four, or even five, pints, should be the average. It is, moreover, desirable that the fluid thus taken should be in the main either pure water, or water in which the simplest extracts are held in solution. When fluid taken "as drink" is itself heavily charged with solid matter, it cannot be fairly expected to so entirely rid itself of this burden, in the process of digestion and absorption, as to be available for solvent purposes generally, although the separation between solid and fluid ingredients of the food is doubtless fairly complete in the processes preparatory to assimilation. The aim should, nevertheless, be to supply the organic needs, in this particular, abundantly and with such fluids as are not overloaded with solids, but simple and ready available as solvents."

Dr. R. N. Tooker writes: "Distilled water is the acme of purity. *Nothing can be purer than that which is absolutely pure.* For medicinal purposes the highest authorities are agreed that pure water is preferable to the so-called medicinal spring waters. The latter all contain more or less impurities in the form of earthly salts or organic matter, which is not the case with distilled water. For flushing the kidneys, stimulating the sluggish liver, eliminating waste matter from the system, indeed, for all affections in which medical waters are believed to be efficacious, pure distilled water furnishes the long sought desideratum."

The late Dr. Austin Flint, of New York, wrote: "I believe distilled water to be superior to the best spring water for drinking purposes, *because it cannot convey the specific germs of disease.* There is no filter in use that will entirely remove from the water the most active and dangerous elements."

The Ralston Health Club endorses distilled water as follows: "Old age or ossification is the penalty of ignorance in regard to drinking water. Raw drinking water is to pure distilled water what raw pork is to cooked meat. There are three kinds of food which enter into the system daily: solids, distilled liquids and raw liquids. All solids contain calcareous or old age materials. The distilled liquids of juicy fruits are not only free from old age matter, but dissolve and draw off as much calcareous substance as the solid food deposits. Fruits and solid foods would, therefore, ward off decrepitude

Coffee Drinking Dissipates Energy

Any article of diet taken into the economy which acts as a "whip" to flagging energy, is but temporary in its ***apparent*** benefit. In the end, it ***subtracts*** from the ***total energy*** of the individual. This, in the case of Coffee, is a manifestation of the law of alkaloidal "action and reaction;" caffein being the alkaloid in coffee.

The temporary ***feeling*** of increased energy, after having taken the usual cup of coffee (or two cups) is, in a large majority of individual cases, soon followed by a feeling of lassitude which more than counterbalances the temporary "spurt" of ***artificially*** aroused activity of mind or body. Hence, we may truthfully affirm, that in summing up its effect, coffee drinking dissipates energy.

On the other hand

POSTUM

—a most agreeable beverage—can in no manner delude the user, because its effect is simply and directly to increase warmth and add a little ***real*** nourishment.

In those individual patients where caffein is particularly irritating (and they are legion) the physician can find ready and efficient help in recommending Postum.

Postum now comes in new, convenient form, called **Instant Postum.** It is so processed that only the soluble portions are retained.

Instant Postum requires no boiling. A spoonful with hot water, and sugar and cream to taste, produce a perfect cup ***instantly***—uniform in flavour, wholesome, delicious.

The ***Clinical Record,*** for Physician's bedside use, together with samples of **Instant Postum, Grape-Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any Physician who has not yet received them.

CANADIAN POSTUM CEREAL CO., LTD., WINDSOR, ONT.

and age were it not for the raw water we drink, as nature distils the water in her fruits, man should take lesson and drink only *distilled water.* It is not only free from calcareous or old age matter, but, like juicy fruits, will dissolve and carry off all such matter contained in solid food. Nature sets us great examples, and the time is not far distant when raw water *will be a thing of the barbaric past."*

"Distilled water is as soft as rain water. If hard water will irritate and chap the strong cuticle of the hands and face, what will be its effect upon the delicate membranes of the digestive organs?"

The J. J. McLaughlin, Ltd., Toronto, Winnipeg and Edmonton, make a specialty of supplying distilled water in any quantity desired at lowest prices.

ALLAYS COUGH AND PROMOTES FREE EXPECTORATION

INASMUCH as cough is the psychical as well as the physical tormentor of every person afflicted with pulmonary phthisis, and in view of the fact that if it is not repressed it unmercifully robs the patient of his vital force and deprives him of the rehabilitating influences of rest and sleep, the efforts of the physician ought to be directed toward its abatement.

The treatment being essentially a prolonged one, care must be taken to select a remedy which will afford the desired relief without begetting the drug habit, deranging the already sensitive stomach, or in any other manner adding to the patient's affliction.

Glyco-heroin (Smith) enjoys the preferment of a large proportion of the medical profession in the treatment of these cases. It immediately allays the cough, stimulates the respiration, reduces the fever, promotes the free and unlabored expectoration of the sputa, exercises an antiseptic and balsamic influence upon the breathing passages and induces healthful and refreshing sleep.

The delightful sedative action of the preparation causes it to be of unsurpassed value when the nervous system is involved, or where the cough is sufficiently persistent to disturb the sleep.

Glyco-heroin (Smith) is very extensively employed in institutions devoted to the treatment of pulmonary phthisis and in many of them it is made a routine practice to administer it, exclusively, for the suppression of cough.

NASO-PHARYNGEAL INFLAMMATION

THE many cases of nasal and naso-pharyngeal inflammation which are so prevalent at this season call to mind the fact that Glyco-Thymoline is almost a specific in their treatment.

The cooling, soothing and slightly anodyne effect of this preparation on the dry and hot mucous surfaces is well known to the profession. In addition Glyco-Thymoline will by its exosmotic properties relieve the congested area of the inflammatory exudate and by stimulating the capillaries to renewed activity bring about a normal condition of the parts.

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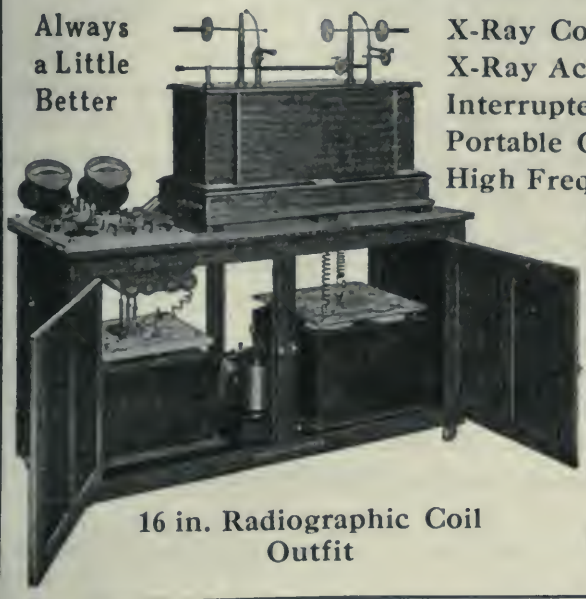

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THERAPEUTIC REMARKS ON DIABETES MELLITUS

In the treatment of Diabetes Mellitus we distinguish between remedies for the disease itself and for complications that may arise. Within the last few years numerous preparations promising a complete cure, have made their appearance, but few of them have been able to reduce and even eliminate sugar secretions as effectively as Sanol's Anti-Diabetes, a remedy which only within the last year has been put on the market in this country. This preparation is successfully applied in some cases where sugar remains in spite of a diet free of carbo-hydrates. Experience has shown that this remedy has caused no bad effects whatever. Of course, an improvement without a strict observance of the diet regulations cannot be expected, but as this remedy is perfectly harmless, and has been used with excellent results, it should be tried in every case of diabetes. After a course of from 5 to 8 weeks, during which time the strict diet has been gradually changed to a mixed diet, the toleration of carbo-hydrates will be noticed, and this favorable condition will remain even after the remedy is taken at longer intervals, to be finally dispensed with altogether.

Diabetics of advanced age who show symptoms of arterio sclerosis and arthritis have derived great benefit from the continued use of Natr. jodat. with Natr. Salicyl. taken in connection with anti-diabetes.

There is doubtless a close relation between diabetes arterio-sclerosis and arthritis. Many a case of diabetes affecting the aged may be explained by arthosclerotic changes of the vertebral and basilar arteries which are near the medulla, and their small branches supply the floor of the fourth verticle in which Cl. Bernhard found the diabetic centre. The above medication was useful in arthritic patients as well as in the sclerotic. Swelling of the joints disappeared notably thereby, the somewhat sclerotic antecedenta in the arteries of the medulla were likewise influenced and therefore the cure of the diabetic was brought about.

For indigestion, dry and bitter taste in the mouth, loss of appetite, oppression in the abdominal region, flatulence, constipation, nothing equals Carlsbader salt, taken as hot as possible.

The use of Stront Cromat will control nervousness, and its favorable influence upon the general condition of the patient, especially upon insomnia, irregular heart pulse, etc., will be noticeable after a few days.

It is a well-known fact that during the first days of the strict diet, when all foods containing carbo-hydrates are prohibited, the patients complain of nervousness, irritation, palpitation of the heart, etc., symptoms which the physicians often take as preceding the state of coma and, unfortunately, cause the diet to be interrupted. In such cases a prescription of Dionin will be found very beneficial.

For Pruritis nothing is better than Natr. Salicyl. 45 grains daily, or the same amount of Aspirin.

IMPORTANT!

Physicians using Antitoxins, Bacterins and Curative Serums should realize that these products differ widely in their therapeutic value. This variation accounts for many of the failures to secure results from bacterin and serum therapy.

The proper preparation of antitoxins, bacterins, and curative serums requires exceptional technical skill and expert knowledge, together with unlimited facilities for scientific research.

The H. K. Mulford Company were the first to produce antitoxins, bacterins and curative serums in the United States and are to-day the largest producers of biological products in the world.

Our large staff of scientists and experts and extensive connections with hospitals and other institutions enable us not only to keep in constant touch with the progress of bacteriological science but also to obtain the various strains of pathogenic microorganisms so absolutely necessary to the production of effective and polyvalent serums and bacterins.

For dependable results specify Mulford Antitoxins, Polyvalent Serums and Bacterins

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CASE REPORT

Miss G. A., age 23, pulmonary tuberculosis, with gangrene of lung. Has been ill for five or six years, and had consulted six or eight different physicians, without getting any relief from any of them. Went to North Dakota about a year ago, thinking change of climate might help her cough, but it did her no good. She came back home and picked up a little, but her cough kept up and every morning on rising she would cough or spit up from two to four ounces of a grayish matter, sometimes mixed with blood and with an awful gangrenous odor, so bad that one could hardly stay in the room on account of it.

She came to me on May 11, 1912. I gave her a first injection on May 15th of 7 c.c. of Bannerman's Intravenous Solution. Other injections were given on the following dates: May 30, 10 c.c.; May 22, 10 c.c.; June 7, 10 c.c.; June 14, 10c.c.; July 1, 10 c.c.; July 12, 10 c.c.; July 25, 10 c.c.; August 9, 10 c.c.

When I gave her the first injection the pulse was running from 100 to 120, and temperature 100 to 103. Red blood count, 3,400,000. Eight days after first injection R. B. C. was 4,200,000. Have not made count since, but on June 14 pulse was 72 and temperature 98, and patient has had no temperature since and pulse stays at from 72 to 76. She has not coughed up any bad smelling sputum since receiving the fourth injection, and at this date scarcely coughs at all, has gained 17 pounds in weight and is apparently well, but I intend to continue treatment at intervals of from 30 to 60 days for some time to come.

I have other cases which I am treating at the present time which are doing as well as this one, and I feel certain that the outcome will be recovery. I am now ready to believe almost anything good you may say about the Bannerman treatment for tuberculosis.

R. W. Markley, M.D.

Rockford, Ill.

PHENOL AND ICHTHYOL IN EXTERNAL OTITIS

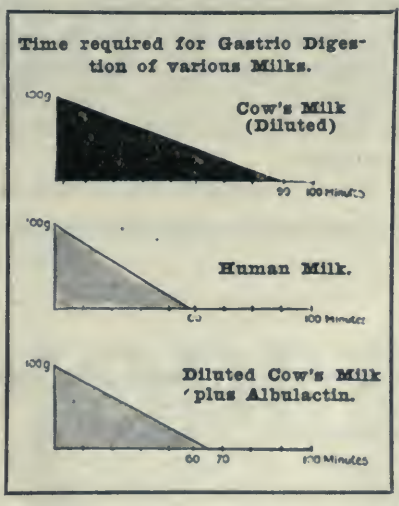
Richard M. Nelson, Atlanta, Ga. (*Journal A. M. A.*, March 8), reports exceedingly good results from the use of a mixture of phenol and ichthyol in glycerine in otitis externa diffusa and myringitis, otitis externa circumspecta ("furuncle of canal"), and in connection with other treatment as good as in ear-drops in acute otitis media, and especially good in otitis externa caused by complicating chronic suppurative otitis media. Tampons soaked in this solution and used as packings in connection with 2 per cent. boric irrigations were used with splendid results in a series of cases averaging from 1000 to 1200 per month during one year at the eye and ear clinic, Colon Hospital, Cristobal, Canal Zone.

Experiments showing the Influence of Albulactin on the Motility of the Stomach.

A NATURAL AID TO INFANTILE DIGESTION

Important clinical interest attaches to the experiments recently made by Prof. A. Bickel and Dr. H. Roeder, of the Royal Pathological Institute in Berlin, regarding the use of Albulactin for the artificial feeding of infants. (*See "Med. Press and Circular," May 4th, 1910.*)

Albulactin is the soluble form of milk-albumin, or the real albumin of milk as distinguished from the casein. This substance is now recognized as being not only the essential nutritive element in human milk, but also the chief cause of its easy digestibility. Human milk contains three times as much of it as cow's milk. By adding the right proportion of milk-albumin, or Albulactin, to diluted cow's milk, a milk is obtained practically identical with the human fluid.



The object of these experiments was to determine the exact length of time required for gastric digestion of an equal quantity (100 grammes) of (1) Diluted Cow's Milk, (2) Human Milk, (3) Diluted Cow's Milk *plus* Albulactin. These were given by means of an œsophageal tube to fasting animals with a permanent duodenal cannula in the side. The solutions were tinted with Berlin Blue to ascertain the exact period which elapsed from the stomach beginning to empty itself until the process was complete.

The experiments may be summarized by stating that gastric digestion was performed in about 90 minutes in the case of diluted cow's milk, in 56 minutes in the case of human milk, and in 62 minutes in the case of diluted cow's milk plus Albulactin, as shown in the accompanying diagram.

These facts encouraged Dr. Roeder to use Albulactin in the feeding of infants suffering from various diseased conditions, and the results which he obtained were in every case highly satisfactory. The author's investigations may be summarized as follows:—

(1) Diluted cow's milk tends to inhibit gastric motility because its thick curd offers only a small surface to the action of the gastric juice, and consequently requires a longer time for digestion than human milk.

(2) The curds formed by cow's milk plus Albulactin are as fine, soft and minute as those yielded by the human fluid. They are propelled from the stomach with a minimum expenditure of energy and in practically the same time as the curds of human milk.

(3) The addition of Albulactin to diluted cow's milk stimulates the motor activity of the stomach and therefore actually aids the digestive process.

Literature and Samples supplied free to medical men on application to Messrs. A. Wulfing & Co., 12 Chenies Street, London, W.C., manufacturers of Sanatogen, Formamint and Albulactin.

ALBULACTIN

COMMON SENSE IN THE TREATMENT OF CONSTIPATION

It is interesting to note how quickly the whole profession has awakened to the importance of Schmidt's discoveries concerning hyper-digestion and the necessity of retaining ample moisture in the intestinal contents. This keen observer has determined conclusively that a large proportion of the human ills that can be traced to the alimentary canal are really due to over-digestion and over-absorption of the intestinal mass. This tends to remove all or practically all of the fluids and leaves the waste material to be eliminated so dry and hardened that normal peristalsis is sadly embarrassed. Constipation is the logical result. Since prolonged retention of the intestinal contents favors excessive absorption it is easy to see the vicious circle-like situation.

Its effects are gradual but very marked and gratifying. Regulin is not a physic in the ordinary sense, and while it can be taken to produce a free evacuation, its greatest benefits come from prolonged usage for several weeks or months. Administered systematically it corrects the whole intestinal condition, establishes normal activity of the bowels and not infrequently produces complete and permanent relief in cases of functional constipation when other remedies have proven valueless.

For further information and samples kindly address,

The Reinschild Chemical Co.,
71 Barclay Street, New York.

A NEW "INTERRUPTERLESS" X-RAY TRANSFORMER

The Victor Electric Company, of Chicago, whose advertisement appears elsewhere in this publication, has recently placed on the market an improved type of "Interrupterless" X-ray transformer, which, according to the views of experts who have witnessed a demonstration of it, is going to surpass any apparatus built for X-ray work.

Radiography of skeletal, as well as visceral, tissue is done equally well with this instrument, the time of exposure, when working on subjects of 200 pounds and under, being one second and less.

Heretofore the "bugbear" of transformer operators has been the enormous tube expense. The "Victor" is so designed that the ordinary life of a tube is even longer when an induction coil is used.

The mechanism is exceptionally simple, one motor only being used, and the writer of this notice was happily surprised to note the consistency of the high potential rectifying switch in staying in absolute synchronism. This was easily explained when attention was called to the fact that this disc rotated in a vacuum—that is, so far as we can learn, an innovation in the construction of "interrupterless" X-ray transformers.

Range, flexibility, speed, simplicity and staunchness are the salient features of this instrument.

IF YOU HAVE A CASE of mal-nutrition where the patient remains obstinately too thin, you will be interested in the results of the new researches on Bovril carried out at the School of Physiology, Dublin. The tests made in the physiological laboratory proved conclusively the remarkable power of Bovril in building flesh. The subjects of the tests, both animal and human, increased in weight while Bovril was administered by from 10 to 20 times the amount of Bovril taken.

BOVRIL

IS CONCENTRATED BEEF

(Ung. Iodi, "M.&J.") **IODEX** *(For External Use)*

Contains 5 per cent. of IODINE (therapeutically free) in a neutral base. In pots, price 35 cents

Distinctive Characteristics { DOES NOT STAIN OR IRRITATE THE SKIN. IS ABSORBED WITH GREAT RAPIDITY. IS ENTIRELY FREE FROM SOLVENTS SUCH AS ALKALINE IODIDES, ALCOHOL OR GLYCERINE.

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IODEX is indicated in: RHEUMATISM, GOUT, ARTHRITIS, SYPHILIS, TUBERCULOUS and SWOLLEN JOINTS, ENLARGED GLANDS, RINGWORM, CHILBLAINS, and ALL INFLAMMATORY CONDITIONS

Samples and Literature Sent on Application.

MENLEY & JAMES Ltd., of Canada, 337 Craig St. West, Montreal

SURGERY OF DYSPEPSIA

The text-book descriptions of chronic dyspepsia are criticised by W. H. Wathen, Louisville, Ky. (*Journal A. M. A.*, March 8). Their beautifully written chapters are, he says, full of errors. The term "functional dyspepsia" should be left out of medical nomenclature, since, if it exists, it is so rare as to be practically negligible. Hyperchlorhydria is only a symptom, usually with no structural lesions. The attempt to construct a pathology on chemical analysis of stomach secretions has been a failure. The test-meal alone is of little value in the diagnosis of ulcer or cancer, and stomach analysis generally must be considered as only a supplementary aid. The classification approved of by Wathen of the causes of chronic dyspepsia is given as follows: "1. In 90 per cent. of cases of chronic dyspepsia there is no trouble in the stomach, and the conditions requiring operation in the entire gastro-intestinal tract, and all structures in the abdominal and pelvic cavities do not exceed 30 per cent. 2. In about 30 per cent. the stomach trouble is caused by cardiac and kidney insufficiency, tuberculosis, arteriosclerosis, tabes dorsalis, etc. 3. Another 30 per cent. is caused by congenital or acquired defects in the viscera of the abdominal and pelvic cavities, plus gastro-intestinal neuroses—gastroptosis, enteroptosis, atonic dilatation of the stomach, etc." Stomach complaint is also the most common manifestation of neurasthenia, especially inborn neurasthenia. The claim that the abdominal surgeon has invaded the province of the internist is denied by Wathen. The same was said when the surgeon began to operate for appendicitis, but no one makes that contention now. There can be no conflict between well-trained physicians and surgeons. Their functions often overlap, and Wathen thinks it would be a good idea for the physician to follow his cases into the operating-room and study the pathology of the living. He goes over a number of mistaken views that have been thought correct, but which have been refuted by surgical experience, such as the relative frequency of ulcer of the stomach and the duodenum, the innocence of gall-stones, etc. The 30 per cent. of dyspepsia caused by general diseases is never surgical, and the treatment must be applied to the regional disturbance, and is generally medical. Acute ulcer of the duodenum or stomach is toxemic, and hematemesis without characteristic symptoms of long standing is not surgical. Dyspepsia is often cured by the removal of gall-stones or appendix, and Wathen says his report would be altogether too long if he should give in detail the cases of long-standing chronic dyspepsia cured by removal of pathologic conditions of other abdominal organs. There is but one treatment that can cure inveterate dyspepsia due to calloused gastric or duodenal ulcer, and that is surgery. Temporary cures may be obtained, but the symptoms will return. Gastro-jejunostomy is indicated. Wathen says: "In conclusion, I wish to note that 90 per cent. of ulcers in the stomach are in the lesser curvature, and that 90 per cent. of ulcers in the duodenum are in the first inch of the bowel; that 25 per cent. of calloused ulcers are in the stomach and 75 per cent. in the duodenum, and that gastric ulcer is multiple in about 6 per cent., and that 75 per cent. of gall-stones are in women and 25 per cent. in men. In every case of duodenal ulcer there is an excess of free hydrochloric acid at some more active phase of the disease, and this is practically

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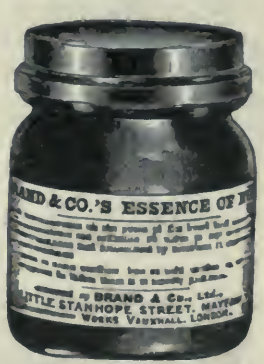

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IN GLASS AND TINS

BRAND'S Essence contains no added condiments or stimulants. It is a pure meat essence in the form of a very delectable golden-coloured jelly, pleasant to take, and easy of assimilation by the most delicate digestion.
MEAT JUICE, and other Invalid Delicacies.

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Knorr's Consomme -Cubes-

Each cube one cup.
"Ready in a minute."

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If you like the

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KNORR'S

SOUP SQUARES
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MIXED VEGETABLES

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true in stomach ulcer, but to find the excess frequent examinations must be made at different stages of the trouble. In every case of duodenal ulcer, and in all, or nearly all, cases of stomach ulcer, free or occult blood will be vomited or found in the feces, if the examinations are repeatedly and correctly made. Dr. Craven Moore, of Manchester, one of the most painstaking pathologists in England, reports that in a long series of cases in which operation was performed for duodenal ulcer, he found in every case an excess of acid and occult blood in feces. While ulcer in the pyloric canal of Jonnesco is relatively infrequent, I recently found, in two cases in which I operated, open perforation just proximal to the pyloric vein.''

THE NEW TREATMENT FOR PNEUMONIA

After long and laborious clinical study—extending, in fact, over a period of more than twenty months—Messrs. Parke, Davis & Co. announce the addition of Pneumonia Phylacogen to their list of therapeutic agents. This product is designed for the treatment of pneumonia or any infection caused by the pneumococcus. Administered in the early stage of the disease it is said to cut short the pneumonic process in a manner that is truly remarkable.

Pneumonia Phylacogen has been administered to patients of all ages and of many nationalities, with highly gratifying results in a large majority of cases. ''From experience gained in the study of typical cases treated under favorable circumstances,'' one writer remarks, ''we are led to believe that almost every case of pneumonia seen within the first twenty-four hours after the initial chill will recover if properly treated with Phylacogen.'' Another observer, a professor in one of the large American medical schools, pays the product a high compliment in these words: ''Pneumonia Phylacogen is the only therapeutic agent in my experience that has ever shown a definite therapeutic action on the pneumonic process.''

In view of the fact that pneumonia is one of the commonest and most fatal of infections (it is said upon good authority that it causes more deaths than tuberculosis, scarlet fever and smallpox combined), the new Phylacogen gives promise of a veritable therapeutic blessing.

Canadian Medical Exchange.—In addition to the medical practices offered for sale by the Canadian Medical Exchange Office, to be found among our advertising pages each month, Dr. W. E. Hamill, who conducts the above exchange office, wishes us to state that, inasmuch as these offers can only necessarily appear once a month in our publication, he will in future present interim offers each week, on Saturday, under ''Business Chances'' in the Toronto *Globe,* thus enabling those interested to keep a better tally on his offers and to secure quick results and a short cut to the goal desired. His sixteen years' experience as an exclusive medical broker has enabled the doctor to perfect a system whereby vendors and vendees are brought together, which the profession will quickly perceive and take advantage of when desiring either to sell out or to buy. Office, 75 Yonge Street. Hours: 11 a.m. to 5 p.m.

"Expels without discomfort to the patient the poisonous toxins that form in the alimentary canal and is of particular value in the treatment of febrile conditions."

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GRANULAR **Salinates** EFFERVESCENT

SUPPLIED IN SEALED BOTTLES
CONTAINING 1-4 LB. AND 1 LB.

PREPARED BY

JOHN WYETH & BROTHER
INCORPORATED

Manufacturing Pharmacists, PHILADELPHIA, PA.

FECAL IMPACTION

A CASE of fecal impaction in the ileum for fifty-three days, with recovery, is reported by R. W. Harris, Battle Creek, Mich., in *The Journal A. M. A.*, March 8. The patient was a man of good habits, and previous good health, without any family history of disease, except that his mother died of cancer of the breast at the age of 48. His ancestors were fairly long-lived. At the age of 60 he had intestinal troubles resisting treatment and accompanied with great pain, lasting seven days. An exploratory operation found a large malignant growth of the sigmoid, and a cecostomy was performed, the opening being placed at the level of the ileocecal valve. He was soon able to do his usual work about his farm, and had no special inconvenience from the artificial anus except diarrhea about once in two weeks. The cecum frequently relaxed through the opening, but was easily replaced, and a simple pad of cloth was used. Practically no fecal matter was passed through the rectum, and only a little blood-stained mucus. In September, 1910, two and a half years after this operation, the patient went forty-nine days without any passage from the bowels, and the last three weeks the urine became dark red. The obstruction ceased after seven weeks' duration, being apparently brought to an end by a ride in a jolting wagon. The bowels ceased again to act Aug. 1, 1911, and fifty-three days later the patient presented himself for treatment. Lavage was resorted to. The further details of the case are given very fully, together with the urinary analyses during that time. There was no evidence of biliary obstruction. The intestinal gases were discharged by oral eructations and through the artificial anus, and toxic and reflex symptoms were not prominent, a more or less constant balance seeming to be maintained between production and absorption and elimination of toxic substances. X-ray examinations were made. The patient went home and was reasonably comfortable till April, 1912, when the cecum prolapsed through the artificial anus, and could not be reduced. The patient died one week later. No post-mortem. The following are the conclusions deduced by Harris from the history of the case: "1. Cecostomy may be complicated (a) by contraction of the opening, requiring dilatation from time to time; (b) by fecal impaction, necessitating irrigation through the artificial anus, and (c) by prolapse of the cecum through the cecostomy fistula. 2. Fecal impaction in the ileum in the case herewith reported was due principally to the ingestion of fruit seeds and imperfectly masticated vegetables, such as string beans, which became impacted at the ileocecal orifice. 3. Mere fecal accumulation does not cause urgent symptoms as long as the intestinal gases have opportunity of exit. The distention may produce displacement of the liver and stomach without marked interference with their functions. 4. The urine became dark red from the elimination of bile pigments and hematin reduced to urobilin in the intestine, and the urine contained a few hyaline casts, but no albumin. 5. Roentgen-ray examination of the digestive tract after bismuth meals and bismuth enemas was valuable in estimating the extent of the changes which resulted from the impaction and in confirming the exact location of the tumor. 6. Treatment, to be effective, must be persevering, and should be conducted with full knowledge of the probable existence of stercoral ulceration in a

MODIFIED MILK POWDER (C.M.P.).
SWEET WHEY POWDER (C.M.P.).

These Infant and Invalid Foods are daily proving their incomparable superiority over all others. They are the only prepared foods made by the spraying process, by which all moisture is extracted while the particles of milk are suspended in air and not by contact with heated metal. Hence they are the only ones in which the lact-albumen has not been coagulated nor the milk enzymes destroyed, insuring ready assimilability and full antiscorbutic properties.

MODIFIED MILK POWDER (C.M.P.) is a split-proteid modification made with milk ingredients only, suitable for the great majority of infants. Special modifications for particular needs can be easily made by the physician by addition of the suitable proportion of SWEET WHEY POWDER (C.M.P.).

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REMEMBER
Antiphlogistine
TRADE MARK
MEANS
THERAPEUTIC EFFICIENCY

In all inflammatory and congestive conditions such as
BOILS,
BURNS,
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applied thick and hot stimulates the capillary and arterial circulation, relieves the tension, removes the pain and affords relief and comfort to the patient.

The Denver Chemical Mfg. Co.
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greatly distended intestine, and of the possibility of separating the bowel from the colostomy opening by any undue violence. 7. Prolapse of the cecum through the artificial anus may prove fatal unless skilful surgical attention is promptly available."

ELASTICA FLOOR FINISH

ELASTICA Floor Finish has proved in the severest possible tests that it is a perfect floor finish in every respect.

The natural beauty of the flooring is really enhanced by this wonderful Elastica.

Water does not affect the beauty of the finish, because it is absolutely waterproof.

Elastica Floor Finish is elastic, that is, it does not mar white under heels or castors.

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It is suitable for finishing every kind of floor.

It is used over stain of all shades.

It is good for both new and old floors.

It is unsurpassed for use over grained floors.

It is used over grained floors.

It revives and renews linoleum and oilcloth.

Elastica retains its beauty through the longest and hardest wear.

It is of immediate interest to physicians because it is *absolutely sanitary.*

WHOLLY FROM MALTED GRAIN

DUFFY'S Pure Malt Whisky is distilled from a mash made wholly from malted grain, and as diseased or musty grain cannot be malted, it will be seen that our product has in this an asset of value not found in most whiskies.

Alfred H. Austin, the noted chemist and author, says: "Other things being equal, the spirit from malted grain is the most valuable and contains less fusel oil."

After repeated distillations with the view of removing as far as possible the deleterious substances, it is allowed to age or mature in lightly charred barrels sufficiently long to obtain smoothness and bouquet, absorbing from the wood an excess of tannic acid and other tar products which are known to disturb the digestive process. It complies with the test requirements of the United States Pharmacopeia and in quality and wholesomeness it is immeasurably superior to that standard. Its color, which is pleasant to the eye, is a soft amber, obtained wholly from the wood. Unlike most whiskies, its taste is pleasant and inviting and its odor delicately rich and agreeable. Physicians declare it is retained by the stomach when other whiskies and liquors are rejected.

ERGOT AND THE PRICE IN THE MARKET

In 1910 Ergot was a short crop and prices were increased.

In 1911 the excessive drought reduced the Ergot crop to one-half, and prices soared again.

The result of last year's excessive rains, which washed a large part of the Ergot crop away, is that the price of the crude drug has soared to a point beyond all expectations. Yet some manufacturers are offering Fluid Extract of Ergot, at a price which, under present market conditions, is absolutely impossible if sound, ripe Ergot is used.

During these three years of failure in crops and increasing prices, we have been able to secure a supply of prime Ergot, so that the standard of

National Fluid Extract of Ergot

is to-day as high as it was when this reliable product was first made known to the profession.

National Fluid Extract of Ergot is the best form in which Ergot can be administered. It responds better to the anxious expectations of the physician than any other preparation of Ergot.

Always prescribe the National. Its unbroken history of satisfactory use is your best guarantee.

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THE PECK ELECTRIC COUPE

The Peck Electric Co., Jarvis and Adelaide Streets, Toronto, are manufacturing an ideal physician's car. It is a coupé body, giving protection at all seasons of the year and in all kinds of weather. It is electrically driven, the batteries being of the latest and most satisfactory type, giving a minimum of 40 miles and as high as 60 miles to the charge. The firm undertake to charge, store, wash and polish and deliver for $30.00 a month. This is an ideal proposition for doctors and we don't hesitate to recommend it to our readers.

CACTUS GRANDIFLORUS

Thirty thousand physicians, graduates of all schools, were recently asked their opinions as to the vegetable remedies of greatest value in their practice. Of the 10,000 responses Cactus Grandiflorus received 6,239 votes (*Journ. Am. Pharm. Assoc.*). It was mentioned oftener than any other drug, officinal or non-officinal. This reminds us of Cactina Pillets, which were introduced to the pharmaceutical and medical professions in 1889 by Mr. Sultan, of the Sultan Drug Company. This is the original definite product of cactus, presenting the drug in a constant and reliable form; and the thousands of physicians who have used it in their practice for the past twenty-four years have attested to its undoubted value as a cardiac remedy of great usefulness in the treatment of functional heart troubles. As the makers of Cactina Pillets have consistently advertised this product in the legitimate medical press, it would seem that their great faith in the drug is now justified in an ample manner.

Ideal for the Sick Room.—Knorr's Compressed Soups in squares only require 15 to 20 minutes' boiling with water to make delicious and strong soups. The following are the 33 varieties: Barley, Cabbage, Crab, Curry, Green Wheat, Hare, Haricot, Home Made, Italian Paste, Julienne, Lentil, Londonderry, Mock Turtle, Mushroom, Oxtail, Onion, Pea (fine), Pea with Bacon, Pea with Ham, Pea with Mint, Pea with Pig's Ear, Peas and Rice, Pea (green), Potato, Rice, Rice-Julienne, Sago, Semolino, Spring, Tapioca, Tapioca-Julienne, Tomato, Windsor. Knorr's Concentrated Consomme in cubes contains all the nutritive and invigorating elements of beef, combined with the flavoring of fresh garden vegetables. *What could be better for the convalescent patient?* Nothing required but hot water to make instantly a large cup of excellent clear consomme. Knorr's cubes also improve in a surprising manner every soup, sauce or vegetable. Another preparation made by the same firm, of interest to physicians, is Knorr's Prepared Digestive Flours: Rice Flour, Barley Flour, Pea Flour, Beanflour, Lentil Flour, Green Corn Flour, etc., are splendid for making French soups in great variety and excellence. Canadian agents for these goods, The MacLaren Imperial Cheese Co., 69 Front St. E., Toronto.

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A palatable tonic food and reconstructive.

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Rapidly increases weight, producing firm flesh, strong bones and healthy blood.

Unequalled for fortifying weaklings—infants and adults against the effects of cold weather.

Its beneficial effect is immediate in Anæmia, Debility, Rickets and wasting diseases generally.

It is a scientific combination of Fresh Red Bone Marrow, Cream of Malt and the Hypophosphites.

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Used in all the leading hospitals and sanatoria throughout the world.

Entirely Supersedes Cod Liver Oil.

Colloid Metals

A New System of Treatment.

'Collosols'

Argentum or Hydrargyrum
(1 in 2000)

Kill pathogenic micro-organisms in a few minutes yet are harmless to human beings.

"No microbe is known that is not killed in laboratory experiments within six minutes."
British Medical Journal, March 2nd, 1912

Used successfully in Gonorrhoea, Gonorrhoeal Conjunctivitis, Syphilis, Tonsillitis, Eczema, Rigg's Disease, etc.
'Lancet,' Feb. 3rd, 1912.

Given hypodermically, intravenously, by the mouth or applied topically.

NOTE.—Collosols are not precipitated by the blood when injected.

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INGRAM & BELL'S NEW WAREHOUSE ON McCAUL ST.

THE firm of Ingram & Bell, Limited, who for many years have been in business at 420 Yonge Street, Toronto, recently moved to their new store, 256 McCaul Street. The firm have built a splendid warehouse on the west side of McCaul Street, just south of College Street, and it can fairly be called one of the handsomest surgical instrument warehouses in Canada. The situation is one of the best, being within three minutes' walk of the Medical Department of the University of Toronto. It is a solid brick structure, consisting of three storeys, with a splendid double plate glass front. The showroom is particularly attractive, being exceedingly well lighted, and shows off to advantage the large stock of surgical and hospital supplies. We congratulate the firm upon their recent move and wish them increased prosperity in the future.

TERRALINE

ATTENTION is called to the advertisement on page 1 of this issue of The Kells Co., 11 Colborne St., Toronto. This firm manufacture the different preparations of Terraline, viz., plain, with creosote and with heroin. Terraline is the refined product of the choicest petroleum, prepared for medicinal use by a special process. It is inodorous, absolutely stable and palatable. It is also antispasmodic, expectorant and diaphoretic, and will be found particularly effective in the treatment of coughs at this season of the year.

Drugs & Chemicals.

MAY AND BAKER, LTD., manufacturers of pharmaceutical chemicals since 1834—offer at strictly competitive prices every description of pharmaceutical product—carefully standardised and complying with the Pharmacopœia and other recognised requirements.

May & Baker's products are purchased regularly by the India Office, the Crown Agents for the Colonies, The War Office, the Admiralty and a large number of foreign Governments as well as by many Hospitals and Institutions both at home and abroad.

The medical profession is invited to ask for May & Baker's chemicals in original packages—obtainable from all the leading wholesale houses in Canada.

MAY AND BAKER, LTD.,
BATTERSEA. LONDON. ENGLAND

HORLICK'S
MALTED MILK
IN TYPHOID FEVER

Pure, rich milk combined with an extract of malted grains, highly concentrated, partially pre-digested, palatable, and readily assimilated, makes **HORLICK'S Malted Milk** the physician's first choice when selecting a reliable nutriment in the treatment of Typhoid and other low fevers.

HORLICK'S Malted Milk has proved invaluable for many years past in the various diseases and conditions in which a complete, well-balanced diet is of vital importance.

A glassful, taken hot upon retiring, proves an excellent "Night Cap" for the physician, when tired out or "chilled through."

Samples sent, free and prepaid, to the profession, upon request.

HORLICK'S MALTED MILK CO.,
25 St. Peter Street, MONTREAL, Canada.

DACRYOCYSTITIS

F. H. Verhoeff, Boston (*Journal A. M. A.*, March 8), calls attention to a method of treatment of acute dacryocystitis first advocated by Agnew over forty years ago and independently devised by himself and used with some satisfaction for some three years past. The common methods of treating the condition are undoubtedly those quoted by him from Fuchs' text-book, and are based on the assumption that lacrimal abscess is analogous to any other abscess. This, Verhoeff says, is not the case. In the lacrimal abscess there is a preformed cavity, walled off by the epithelium and connective tissue. As the inflammation increases, the sac is distended and the infection penetrates its walls and forms one or more secondary abscesses that ultimately open into the sac or through the skin. It is evident, therefore, that delay in operation prolongs the process and increases the danger of extension to surrounding tissues and fistula formation. Early evacuation of the pus is desirable, and pressing it out through the canal is seldom successful. Objections to opening through the skin are its imperfect drainage and the need of frequent repetition, and the formation of a fistula which interferes with the later extirpation of the sac. Bowman's operation of slitting the canaliculus is better, but does not give good drainage, causes unnecessary mutilation and is difficult to perform in the inflamed condition. Agnew's incision, made through the conjunctiva between the caruncle and inner commissure of the eyelids, is better than either. It involves cutting through the least possible depth of tissue, and not only gives good drainage but also constant irrigation of the sac by the tears. He quotes Agnew's description, and gives his own technic. He objects to a Beer's knife for making the incision, and says: "While planning a special instrument for this purpose, Dr. W. Liebman, my assistant, in many of these operations, suggested the use of a small angular keratome, and this has proved perfectly satisfactory. General anesthesia with ether has been employed in all my cases. An assistant holds the lids apart with two small lid elevators. The angular keratome is then made to enter just in front of the caruncle, is plunged through the sac to the bone, and the incision is enlarged by cutting upward and downward. There is always free hemorrhage, but pus does not always gush out until after a probe is introduced. I always immediately probe the lacrimal duct through the incision, using in adults first a No. 12 Theobald probe, then always a No. 14, and finally, if possible, a No. 16. The large probe is left in until the patient begins to regain consciousness, in order, as far as possible, to prevent bleeding from the duct." For after-treatment, pressure on the sac from time to time, and keeping it free from pus with a lotion of boric acid, is directed. Irrigation and cold and hot applications are considered unnecessary. On alternate days the duct is probed under cocaine, but quickly removed. The results have been most gratifying. When Verhoeff first conceived this operation he expected it to cause a chronic condition which would facilitate the removal of the sac. Much to his surprise, he has found, in almost all cases, no further trouble from the sac. In the few cases he has seen since discharge, the canaliculi were patent, but no secretion could be expressed. In all but possibly one, however, the lacrimal duct had again become closed, so that he attributes the good results not to the renewal of normal condition, but to shrinkage of the sac.

917

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Editorials

POWDERED MILK AS A DIET FOR NURSING

In the September, 1912, number of *Archives de Médécine des Enfants,* an important paper appears on the use of powdered milk in the feeding of nurslings. The authors of this paper (E. C. Araignet, L. Block, Michel and Dorlencourt) publish the result of their researches, which were carried on for a period of three years, in order to determine the alimentary and therapeutic value of milk powder. Dried milk, whatever may be the mode of its preparation (desiccation *in vacuo*, and drying at 230° F., or rapid overheating, at 212-230° F.) is a very dry powder, of a yellowish-white cast, very light, containing only 3 per cent. of water, and capable of being preserved for many weeks. The authors restricted themselves to the use of a powder made of milk, from which half the cream had been removed. In normal children, they found that they could practise mixed feeding with powdered milk, as well as with sterilized milk, and they

thought that, during hot weather, the use of powdered milk was the safer of the two. In the cases of dyspeptic nurslings, their tests were made on a large number of infants suffering from digestive disorders, coupled with delayed development, and even atrophy of the tissues—digestive troubles, with vomiting, being the leading features—acute gastro-intestinal disorders. In all such cases, the authors found that powdered milk yielded results almost always equal, if not superior, to those got from other methods of infant feeding. Powdered milk was well borne by infants who were unable to digest liquid milk, or paps made from milk. When a dry diet is indicated, powdered milk, mixed with a little water, may be given, thus permitting the use of a milk pap, as thick as may be found necessary. The authors attribute the happy results obtained from powdered milk to the changes produced by the process of manufacture in the casein of the milk, which is thereby rendered more digestible, owing to the fact that heat and desiccation are favorable to the decomposition or digestion of protein. It should also be remembered that the preliminary heating of powdered milk considerably reduces the toxicity of the albumen of cow's milk. By the operation of these agencies, the inconveniences arising from the feeding of infants with a heterogeneous albumen, such as exists in cow's milk, are considerably diminished. The quantity of powdered milk used for food varied according to the cases; generally speaking, it was given in a proportion of one in eight parts (125 grammes of powdered

milk to 1 litre of water), which yields a liquid about equivalent to normal milk. J. J. C.

DR. FRIEDMANN'S CURE FOR TUBERCULOSIS

Dr. Friedmann says we have a right to believe that the antigens are contained in the bacillus tuberculosis. Alas, that the tuberculins have one fault, namely, that they are composed of toxic, but not always specifically antigenic material. It would be advisable, therefore, according to him, in endeavoring to effect a cure of tuberculosis, to work with an atoxic material possessing specific antigenic properties. He contends that he had obtained an avirulent, atoxic culture of the bacillus tuberculosis, found native in a sea turtle, and the bacillus emulsion elaborated from this he injects hypodermically or intravenously into human beings as a cure of tuberculosis. According to this view, the antigens present in his bacillus emulsion excite the production of antibodies in the organisms of the patients, and these antibodies effect the cure of the disease.

It will be perceived that Friedmann's faith in his bacillus emulsion is stronger than Sahli's belief in the curative efficacy of tuberculin. Sahli says: "A physician should always remember that tuberculin is not a specific remedy, but merely a functional therapeutic agent, which acts through the sensitiveness of the organism to the toxin of tuberculosis, and through the defensive fight put up by the organism." In

other terms, tuberculins—for there are many of them—extracts of the bacillus tuberculosis, for the most part virulent, poisonous substances, when injected hypodermically or intravenously, so affect the human organism that the latter puts up a defensive fight, and generates antibodies to overwhelm the invader. Friedmann's cure is not a tuberculin, but consists of an emulsion, made from a culture of living bacilli tuberculosis. These bacilli, neither human nor bovine, were found native in a sea turtle. The culture made from these turtle bacilli tuberculosis is avirulent and atoxic, but possessed of the antigens—in other terms, it possesses the advantages of tuberculin, without its disadvantages.

However, it does not seem reasonable to think that the antigens present in the culture made from these turtle bacilli could accomplish more, by their influence, than to excite the production of antibodies in the organisms of human beings, thus proving curative, if at all, by the operation of the same agency, which is supposed to effect cures when tuberculin is administered.

It may be, however, that Friedmann aims at imitating Jenner's discovery—to prevent tuberculosis in man by substituting, in good time, turtle tuberculosis for the human variety—just as cowpox is made to anticipate and prevent smallpox. If successful in this direction, Friedmann's discovery would be of tremendous importance—a much greater discovery than a somewhat doubtful cure of an established tuberculosis in man. J. J. C.

THE LLOYD GEORGE INSURANCE ACT AND BRITISH HOSPITALS

We note, by an article published in the *Medical Press and Circular* (Feb. 12, '13), that the future of the special and small hospitals under the National Insurance Act, stands on a precarious foundation. *Patients have already fallen off to an alarming extent,* and it is found that *subscriptions* will decrease correspondingly. The large voluntary medical charities mean to look after themselves, and may possibly achieve some measure of success in these efforts at self-preservation, but the smaller institutions, the special ones in particular, will have to fight hard for dear life.

The British hospitals are expressing devout wishes that Mr. Lloyd George will not permit the special hospitals of the United Kingdom to be wiped out of existence by an Act, ostensibly introduced upon a basis of the loftiest and broadest principles of humanity and justice. It occurs to us that any interpretation to be put on the motives supposed to underlie the Lloyd George Insurance Act must necessarily be colored by the special interests of the interpreter. There can be no doubt, however, that, viewed from one lofty and broad point of view, the National Insurance Act was not drawn up in the interests of British hospitals, but rather to benefit the people. British hospitals have aided other hostile agencies in pauperizing the British people; Lloyd

George would help to restore to the people their self-respect, by providing machinery, through the National Insurance Act, the use of which will enable people to pay for medical services, instead of receiving them as a dole. The ball has been now whisked from the hospital goal, and lies in the grasp of the British general practitioner, "the man of the panels," and it looks as though he has common sense enough to keep the ball on his side.

Hospitals—general and special—are well enough in their way, and for those who live by them; well enough for the rich, who spend their spare cash on them; but bad, infinitely bad, for physicians, who earn their livelihoods by the meagre gains of a profession, the cream of which is absorbed by hospitals.

If the dearest wishes of hospital managers and their like were gratified, there would be in every considerable centre of population a multiplicity of special hospitals—a hospital for the treatment of rheumatism by electricity and other means; a special hospital for dyspepsia, a hospital for baldness, a hospital for the treatment of disease by cataphoresis, a radium institute, a mineral water hospital. There is no limit to this sort of specialism, which only needs enterprise and money to ensure its success. But to what extent is the British people interested in these and similar medical specialties? Not very much, indeed. If Lloyd George's Insurance Act should provide for the extinction of such enterprises, neither medical science nor the British public should be very deeply grieved. J. J. C.

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Original Contributions

GUNSHOT INJURIES IN CIVIL PRACTICE*

BY N. A. POWELL, M.D., OF TORONTO.
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In a certain handbook of Surgical Technique, the sixth edition of which appeared last year, a London surgeon has this to say regarding bullet wounds: "An exploration should be made and if possible with the finger. Search should also be made with a Silver or Nelaton Probe. The patient should not be subjected to a prolonged or deep probing by a dresser or house surgeon. Whether the bullet has passed out of the body or has been removed, or is left, it is vain to hope that the wound will ever unite by first intention. After a period of inaction, inflammation with suppuration and sloughing, will occur as in all bruised wounds, and will be followed by repair by granulation." With putrescent advice such as this, coming from a hospital surgeon in the world's metropolis, and in the year of grace 1912, is it any wonder that not all who are engaged in practice are prepared to give to their patients the benefit of modern treatment, when they meet with injuries of this nature? A third of a century ago the writer was a student at Bellevue. One day a man was brought in with a pistol shot wound, shattering the head of one radius. Dr. Krackowzer, a very able German surgeon, asked each one of a group of us to probe the wound. I was asked to outline the treatment. Having been early and soundly converted to Lister's doctrine, I spoke of drainage and carbolic gauze dressings, and was promptly told that this would cost the patient his life. Excision of the elbow joint was performed, and the man later was discharged with an arm better in some respects than an artificial one.

Has surgical art nothing better to offer to-day to the wounded

* Read by invitation before the Hamilton Medical Society.

man than the advice quoted and the case outlined would indicate?

If I make this the subject of a brief inquiry and illustrate it by cases with which personally I have had to deal, it will be in the hope that a discussion may follow, bringing out features of real value to each one of us.

That surgeons in active civil practice see more cases of gunshot injury than military surgeons have to care for, is, I believe, an arguable proposition.

Even in peaceful hamlets like the one in which I have a local habitation, this is the case. True, the wounds with which we have to deal are inflicted by missiles which differ markedly from those used in war, and these missiles are set in motion by weapons very unlike the main fighting arm with which soldiers are now equipped.

In consequence of this, I shall refer only incidentally to wounds in war. For a century, our country has been at peace, save for the deporting of certain Fenian tourists, and the quieting of a couple of rebellions, which but for governmental mismanagement would never have occurred.

It may be of interest to see grouped together the cartridges used by England's armies within the last hundred years. Five, taken as types, will suffice to illustrate the progress that has been made. First the round ball of the Napoleonic wars. Then the short conical Snider, then the longer Martini-Henry; then the elongated and jacketed Lee-Enfield, and lastly the pointed or Spitzer model.

If our country should ever be invaded from the south during the winter months, the snow shovel will become the most important of entrenching tools. A three-foot bank of snow will stop any bullet. Behind one of the targets used by the Glen Grove Rifle Club, of which for many years I have been President, there was such a bank. Out of it I picked the collection now shown you. None are deformed, and all were stopped within the limit named. The second collection which I show you illustrates how loose sand will cause similar bullets to mushroom, while the third lot of bullets now presented were removed by me from living or dead human bodies.

The gunshot injuries with which we are chiefly concerned

are those made by lead bullets fired from revolvers at short range. Jacketed bullets fired from automatic arms have not as yet been much in evidence with us. Such arms are expensive and crime, as Dr. Wadsworth, of Philadelphia, has pointed out, is apt to be clumsy and crude, and cheap as well, but in the near future surgeons will have to deal with terrible smashes made by soft-pointed bullets fired from these weapons.

Expansive bullets, easily deformable in the human body, may be prohibited in war, but the classes which war against society, the Anarchists, the Gangsters, and the Auto-bandits, are not bound by such prohibition, and are providing themselves with the most destructive of weapons, to put their antagonists quickly out of business. The bullet which does not go through gives up the energy of its momentum in destroying tissue and causing shock. Full mantled bullets will traverse the body, as a rule, as was seen in the case of a Macedonian who, having the custody of much money for his countrymen, carried a 32-calibre automatic in the breast pocket of his coat. Stooping to lace a boot, it fell to the floor and was discharged. The ball passed through his right forearm, entered the right breast, passed through the root of the lung, and out near the vertebral border of the scapula, where I found it in the clothing. Death occurred within twenty minutes.

As surgeons, we place first, before all else, the getting of the patient well, if only to have him ready for a subsequent hanging, but the requirements of legal medicine claim attention, and so weapons, cartridges, and missiles have often to be examined and experimented with, as it is safe for us to reach conclusions only after every possible bit of information has been secured and considered.

In this part of Canada the greater number of accidental injuries with firearms come from .22 calibre balls; of homicidal and suicidal wounds, from those of .32 calibre, while the .44 or .45 calibre weapons are seldom used. A knowledge of the calibre of the weapon or ball used is only a first step in our inquiry. The .22 calibre cartridges which I show you will make this clear. They vary from a tiny C.B. cap, which a thick coat will stop, to this .22 high-power Savage, which I propose to use on next fall's deer hunt. In these .32 and .38 calibre cartridges, you have an

equally great variation. Then, again, if you place a .32 S. & W. cartridge in such a cheap pistol as this so-called bulldog, it will hardly penetrate an inch board. Similar cartridges fired from a

Six Weeks after Accident.

"new police" revolver of the same calibre easily penetrate boards.

We are told that the wound of entrance, on account of the

elasticity of the skin, is often smaller than the bullet that made it. This I do not believe; at least, I have so far not seen one which would not easily admit a cartridge point carrying a similar ball. That it appears smaller may be admitted, but appearances are notably deceptive. Cone measurement is the only test of any value, and should always be resorted to, since the very essence of science is accuracy. Weight and velocity must be considered, as well as cross-section. A .32 calibre ball may weigh but 46 grains, or it may reach 250. It may have just strolled into the tissues, or it may have traversed them at a speed of 2,500 foot seconds.

When a firearm is discharged close to the body, we need to study the brand or burning by hot gases, the tattooing or implantation of unburned powder grains into the epithelium or deeper into the *cutis vera*, and, at ranges of a few inches only, the smudge or blackening by smoke and the debris of combustion. The weapon used, the distance and the kind and quantity of powder burned will modify those appearances. Conclusions regarding them can only be safely based upon experiments made with arms and cartridges precisely similar to the ones used in the wounding.

The better made the arm is the less will be the gas escape between the barrel and cylinder, and around the bullet. As barrels vary in bore from .22 to .45, and in length from 2 to 8 inches, there is scope for much variation in the three characteristic markings. I have seen quite a number of suicidal wounds when the brand and the tattooing were lost in the smudge around the wound of entrance.

Many instances are on record where the muzzle was in direct contact with the skin, and when the bullet did not penetrate it. They are analogous to what is seen when the muzzle of a gun is plugged with mud or snow. I have not seen any such cases, but recall having seen the body of a man who had placed the muzzle of a cheap .22 calibre pistol against his forehead and fired. The skin was almost unchanged. There was little injury in the subcutaneous layers, but a hole much larger than the ball was found in the frontal bone, and the brain beneath it was pulpified around what is technically called a "gas-pocket."

With pistols, burning is not ordinarily seen much beyond

twelve inches. I show you a series of blotting-paper targets made at this distance, and at twenty inches with a .32 S. & W. pistol having a four-inch barrel. They demonstrate what Dr. Fish long ago pointed out: that the burning from ignited gas is seen only above, that is, on the hammer side of the bullet mark, while the tattooing is seen all around it, but mostly above. The density of the smudge and its color are different with smokeless, but the other markings are not unlike those from black powders. In determining the arm from which a given bullet was fired, it should be remembered that pistol cartridges may be used with accuracy in rifles, as well as in shotguns. I show you four devices by means of which this is made possible.

The dangers which attend gunshot injuries are in proportion to the region of the body struck, to the structures injured, to the size, nature, density and velocity of the projectile, to the first aid available, and to the inflammatory or infective processes which may follow. Since the whole force of the ball is transmitted to the body, a wound with lodgement is more dangerous than one which traverses the region injured, and, in addition, the finding and removal of the bullet is not unlikely to increase the risk to the patient.

HEAD.

The suicidal wounds of the head which I have had to investigate have all been of the right temple or of the forehead. A few have failed of their purpose by reason of being directed too much upwards. I show you photographs of one of these cases, as it illustrates very fairly the wounds of entrance and exit. The negatives were taken six hours after the shooting. The healing was by first intention throughout, our London friend to the contrary notwithstanding.

In another suicidal case a .32 calibre bullet entered above the left eyebrow, chipped the Crista Galli, ranged backward above the right basal ganglia, and came to a standstill at the posterior end of the right lateral ventricle. The man lived for nine days, was conscious, and had very few symptoms, but when left for a short time, got up to go to the bathroom, and fell dead on the floor.

As but few pistol-shot wounds of the brain recover, I may

outline one that did so. In a down-town machine shop I found a man lying on the floor and bleeding profusely from a wound of the left temporal region. A woman had just shot him, and then swallowed an ounce of laudanum. A friend washed out her stomach for me at the police station while I looked after the man. The bullet had passed into the skull just above the temporal ridge, and stopped close to the longitudinal sinus. After removing it and controlling the hemorrhage, he made a smooth recovery. Acting as a Peace Commissioner, I brought the parties together, and when the case against her was called in the Assize Court the judge consented to their marriage. They quarreled more fiercely than ever then, and I went out of business as a matrimonial agent.

The impact of small shot is commonly a serious matter only at very short range. When, however, the face is struck, even at a fair sporting distance, the result may be otherwise. A young man was hit in this way, and immediately lost the sight of one eye. Six years later I found him to be suffering from sympathetic ophthalmia in the other eye. A prompt enucleation was done, and fortunately for him it was not too late. Resting against the lens in the eye removed I found one grain of duckshot.

NECK.

The atlas and axis which I show you came from a buck which I shot at a distance of 150 yards. They are of interest as showing the extensive damage done by soft-point bullets. The bone, blown clear away with the cord, was found in fragments under the skin and around the wound of exit.

CHEST.

Recoveries after gunshot wounds of the heart have been reported, but I have seen none. Interest attaches to the amount of exertion possible after such traumatism. Dr. Spooner saw an Italian who had been shot through the ascending part of the aorta close to the arch. After being shot he ran sixty feet and fell dead.

I show you the heart of a deer torn to pieces by an expanding rifle bullet at a range of 75 yards. It ran uphill an equal distance, and was dead when I got to it. The ball smashed the shoulder before reaching the heart.

When the aorta is struck, death, as a rule, is instantaneous. A boy in a pawnshop, some years ago, attempted to take a self-cocking pistol from his right breast pocket and pressed the trigger in doing so. He was shot through the arch, and sank to the floor dead, without a tremor.

LUNGS.

In a near-by town a boy of 14 was shot through the right lung with a .22 calibre rifle. The pleural cavity filled with blood, and there was profuse external bleeding. Subsequently, high fever developed, and he came into the hospital under my care. X-ray pictures located the bullet in the muscles external to the spine and behind the root of the lung. No attempt was made to remove it. The empyema present was treated by the usual rib resection, with free drainage into antiseptic and absorbent dressings, and he recovered satisfactorily. Makins, in South Africa, found that hemothorax following shot wounds of the lung did not become empyematous if untouched. Probably in this case the efforts made to control the hemorrhage account for the infection.

EXTREMITIES.

From the cases seen I select three. The first was that of a girl of sixteen with melancholia. She put one cartridge into a Colt .45, placed the muzzle against her left breast and pulled the trigger five times, getting only a click for each attempt. Then she dropped her hands into her lap, pulled once more, and got the surprise of her life as well as a hole of the bigness of my thumb through her left palm. Contractions of the palmar tendons gave us much trouble after the wounds healed, but she got rid of her mental depression, and is now a contented wife and mother. The second case was that of a young man, who stood leaning on the muzzle of a loaded shotgun. It discharged, caught him at the back of the left arm, carried away a goodly portion of the triceps and scooped away part of the humeral shaft. The shock was great and the healing by granulation slow, but he ultimately recovered, save for recurrent attacks of severe pain referred to the distribution of the musculo-spiral nerve.

Dr. Holmes once wrote that:

"Not till sickness falls
In the charmed circle of your own safe walls,"

is its real meaning understood. The patient whose case I next report was one of three—the best known and best beloved of all the professional friends whom it has been granted me to know. We were camped together when, late one November afternoon, as he stooped to pass under the trunk of a fallen tree, he was shot by our guide in mistake for a deer. The rifle used was a .32 special, the bullet a soft-pointed one, and the distance seventy yards. The ball passed first through his canvas coat over the left scapula, and expanded. Then it passed into the arm, cutting out a large section of the biceps, but missing the brachial artery; expanding still more, it struck the forearm, making an oblique wound four inches long on entering and five on leaving the limb. The ulna was swept away for a distance of about two and a half inches. It resembled the sort of crushed wounds we used to see before automatic couplings so largely replaced the link and pin. He was knocked down by the force of the blow, but was able to arise and assist in the application of a handkerchief tourniquet to control the profuse bleeding. The guide assisted him to the camp, which I also reached a few minutes later. Fortunately a Red-Cross box, with everything really needed, was in my kit, and I soon had good assistance from the other club members. We improvised an operating table and isolated the field with bichloride towels. Lying in or protruding from the exit wound were numerous small spicules of bone. Having in mind the value of these as centres for the growth of new bone, as demonstrated by the experiments of Sir William McEwen, I spent as much time in coaxing them back into the line of the gap which the ball had made in the ulna as the shock present would justify. The wound itself was untouched, even by gloved fingers, but was drained with iodoform gauze, and its edges drawn somewhat nearer each other with s. w. g. sutures. Then abundant dressings, firm bandaging and support on an air-pillow thoughtfully sent over from another camp completed this stage.

Our next problem—that of transportation—greatly increased the risk of infection. We were 47 miles in the woods, and a third

of this distance was over a trail as rough as any in the Laurentian region. Hog-backs and hollows make hard travelling even for those who are well and strong. We solved it by removing a

Eighteen Months after Injury. Entire Shaft Reproduced.

thwart from a canoe, putting my pneumatic camp mattress in it and rolling him in heated blankets. I paddled him 12 miles through a chain of lakes, and willing comrades cleared the trails

with hatchets, and carried the canoe over the portages. We were met then by autos rushed to our assistance, and made the rest of the trip in a snowstorm.

The later history involved rigid antiseptic management at home till granulation and cicatrization was complete. What was most of all satisfactory was that new bone formed in the line of the ulna, and has perfeetly replaced, both anatomically and funetionally, the part shot away. We have been out during the open season twice since this accident occurred, and each year my friend has shot and paddled as well as ever. We face each other across an operating table from time to time, and no one could wish for better assistance than he gives me. The series of X-ray prints which I show you demonstrate the osteogenetic value of bone spiculae in gunshot injuries treated from the start along lines upon which I hope we are in agreement. Reproduction in the entire thickness of the shaft of a long bone appears to me to be sufficiently uncommon to justify giving the case somewhat in detail.

ABDOMEN.

The propriety of section in penetrating gunshot wounds of the abdomen, where hospital facilities are at once available, is no longer a field of contention in surgery. It was first put to a practical and successful test in 1884 by Kocher, of Berne, and W. T. Bull, of New York. Kinloch, of South Carolina, in 1882, and Mr. Lloyd, of Birmingham, in 1883, had operated, but failed to save their patients. Dr. F. W. Murray, who assisted Dr. Bull, gave me recently a graphic account of the Chambers Street case. Man aged 22, wound below and to left of umbilicus from .32 calibre pistol. Section 17 hours after injury. Carbolic spray used, the same antiseptic in 5 per cent. solution for hands, wound, instruments and sutures, and in 2½ per cent. to sponge out the pelvis. Seven perforations were sutured, and the bullet found in the wall of the bowel at the sigmoid flexure. Recovery complete in three weeks. Since then a very large number of operations have been undertaken, and many successful results obtained.

The rule that a bullet which has passed through the abdomen and lodged in the back should not be followed up at the primary

operation is a good one, but by keeping to it I lost one patient. He was in a crouching position when shot by a .32 calibre pistol at a range of about two feet. I found and repaired two wounds in the stomach, two in the transverse colon, and two in a coil of the ilium, and there was no subsequent peritonitis. But I did not find a wound of the left kidney, and the escape of urine from this organ turned the scale against him. Drainage through the loin or a nephrectomy might possibly have made the result a different one. My friend, Dr. Keyes, of Chicago, had to deal with a case in which 22 perforations were found. He very wisely resected the most damaged parts of the gut, made an anastamosis, and got a good recovery.

If subsequent obstruction is to be feared on account of the damage done, resection is the procedure of choice. We have come to know from accumulated experience that only those cases submitted to operation within, say six hours of the injury, have any reasonable chance of recovery. They are more serious than stab wounds in so far as my experience goes. From a number of knife injuries let me mention one. In one of our parks a man was found with a cut extending from his splenic to his hypogastric region, allowing of the protrusion of the descending colon, sigmoid flexure, and about half of his small intestine. He held these organs in his two hands against his slashed vest. After their repair and replacement and the closure of the wound with drainage, he made an uneventful recovery, but declined to take us into his confidence regarding the details of his impromptu abdominal section.

Hemorrhage and rapid absorption in the upper abdomen make wounds of this region, in my opinion, much more dangerous than those lower down. This belief is contrary to what is commonly held. In penetrating cases it is safe to assume that multiple perforations are present. Those due to small bullets may neither bleed much or leak, as the mucous coat prolapses into and plugs the openings. This fact may account for some of the good results from conservative treatment in war, but it does not justify delay in the kind of wounds we are called on to treat. The condition may be very grave, with but little apparent shock. Hemorrhage is the condition most to be feared if any solid organ or the mesenteric vessels are involved. As it is essen-

tial to find and repair all perforations, a generous median incision is indicated, since it allows of more complete examination and of easier repair. I think it is best closed by the figure-of-8 s. w. g. suture after first shutting off the peritoneal cavity in the ordinary manner.

In the presence of those who are past masters in the arts which have made abdominal surgery successful, may I be permitted to allude rather than to refer to certain minor points which help to give us rapid accuracy without haste in operating, and which tend to eliminate the wasting of movements and of moments. First, the training of the left hand to fully equal the right in efficiency. Next, the mastering of that essential accomplishment—one-hand knot-tying by the best of modern methods. In suturing bowel walls at least a third less tissue is needed with a straight needle than with any curved one. "Speeding up" is, of course, of far less importance than accurate provision against leakage, since leakage accounts for a full half of all failures in intestinal suturing. If the "bite" taken includes only the serous and muscular coats, it will surely cut out. If it goes too deep and perforates the mucous layer, the escape of bowel contents is made easy. Between these, but catching up the fibrous layer every time, as Halstead taught us to do, there is safety. Thin the bowel wall by distension of the viscus, and the margin of safety either way is so limited that only the most exact work gives promise of success. May I ask this question: Are these facts sufficiently recognized and acted upon? When we see either a coarse or a cutting-edge needle used the answer is given. The only perfect needle is fine and spring eyed, and long enough to be handled without forceps; a length of 2¼ inches is most suitable. It can be re-armed instantly by the operator himself with silk Pagenstecher linen, or fine chromic gut, and the soul-harrowing wait while an assistant tries to coax wet suture material through the eye of a needle quite as large as it is safe to use, is gotten rid of. Practising what I preach in this respect, I have been able to send a patient back to his ward fifty minutes after he had left it with four feet six inches less of gangrenous bowel. That he is alive and well to-day is due, at least in part, to the little things of which I have ventured to remind you, and to the excellent team work of my assistants in

keeping all exposed bowel hot and wet with normal saline and avoiding the least traction on the mesentery—all important details.

Military surgeons, who, under battle conditions, can give but little time to individual patients, have wisely agreed upon a much more conservative attitude toward these injuries than we would be justified in assuming.

TREATMENT.

Baron Larry said: "Don't touch gunshot wounds, but dress them, and leave the dressings undisturbed till the seventh, eighth or ninth day." Absolute rest is essential to the best healing. There must be uniform and elastic compression to firmly control the muscles.

Sir Astley Cooper taught that wounded joints would often heal readily if immediately sealed up, dressed with alcohol, and absolutely immobilized. Though he knew them by their works only, and not by the names with which every student is now familiar, he recognized the importance of increasing the number and fighting strength of the phagocytes. John Hunter, like his predecessor, Ambrose Paré, came to regard the presence of a bullet in the tissues as not in itself harmful. Recollecting these things, should we not also recall the words of that old prophet, who went a day's journey into the wilderness and sat down under a juniper tree and requested for himself that he might die, for he said, "Alas, for I am not wiser than my fathers."

Where external hemorrhage does not make an insistent demand for attention, I believe that the local treatment should, in practically all cases, be disinfection by iodine, and then primary antiseptic occlusion. We are dealing with contused lacerations, with tissues of lowered vitality, inviting infection, and the pulpified mass in the bullet track, if infected, will later show dangerous sloughing. The mischief and disaster-making use of the probe is not as common as it used to be. Still too many physicians have yet to learn that when a bullet has come to a standstill, it has ceased to do harm, unless it is in contact with bone; and even in that case, it should be left for later X-ray localization. To Roentgen first, and then to Grossich are due the most notable advancement in treatment since Lister's discoveries became our guiding principles. Neither of these men travelled with press

agents, and they did not seek to patent their discoveries, but to-day wounded humanity the world over is the safer for the boons they brought to us. Many, if not most of us, have come to believe that the accidental and consequently infected wounds which we are called upon to treat heal better after being swabbed out with iodine than after any other primary treatment. In bullet, as in other wounds, a skin dry and free from oily matter is an essential for the successful use of iodine. If there is a better plan for securing this than the one brought back from Italy by Dr. W. J. Mayo, it has not come within my ken. Briefly, this is the free use of 1 in 1000 iodine in benzine, followed by swabbing with a half-strength tr. iodine freshly prepared.

We all work out for ourselves practical methods for meeting the requirements of our daily work. In this connection, mine is to carry in my satchel two glass-stoppered wood-cased bottles, one filled with the benzine solution and the other of ½ oz. capacity containing nine grains of iodine and fourteen of iodide of potash. When needed for use, this bottle is filled with alcohol, giving a nascent 4 per cent. solution. The risk of blistering is eliminated if an impervious covering is not used in the dressings.

The Medical Department of the United States Army is now supplied with glass tubes, sealed like catgut tubes, and each containing 1 gramme of iodine and 1½ grammes of potass. iodide. With 25 or 50 c.c. of alcohol this will quickly provide a 4 or 2 per cent. solution as may be desired.

It is, in my belief, a mistake to depend on sterile dressings applied to wounds of this nature. They are safer to be efficiently antiseptic as they are to be applied to areas already infected. The compressed packages are very convenient, but if not at hand, boiled towels wrung out of a solution made by adding a fluid drachm of tr. iodine to a pint of normal saline will serve excellently.

The essentials which a surgeon should carry with him, even to prayer meeting, will suffice if promptly used. No treatment can make up later for delay in proper first dressing. When the men who earliest see these wounds shall have learned the Biblical lesson—shall cease to do evil—with finger or probe, and shall learn to do good, with antiseptic occlusion, we will come into line with the army surgeons, suffering and danger will be lessened, and a much larger proportion of lives will be saved.

*OBSERVATIONS ON THE TREATMENT OF ACUTE SUPPURATION OF THE MIDDLE EAR

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I PROPOSE in this short paper discussing briefly a few points that seem to me to merit a little more consideration than we all are in the habit of giving to this very common disease.

One has to consider somewhat in detail the different processes that are taking place before he can intelligently discuss the management of any. Furthermore, it is well to remember that we are treating an inflammation of mucous membrane and periosteum within a small cavity imperfectly drained and almost surrounded by bone. Normally, air reaches the cavity only when swallowing and then by a collapsed tube one and a half inches long. In health the tympanic cavity is sterile and this also applies to the adjoining cavity, the naso-pharynx. In the tympanum are the ossicles covered as a periostium in places simply by a thin layer of epithelial cells. The labyrinth and middle cranial fossa are separated from it by a thin layer of bone which may or may not be continuous throughout. Having regard to the physiological importance of these structures as well as the tympanic contents it is not surprising that there should be many divergent opinions as to the proper course to follow when inflammation has taken place.

When we consider the terminations of some cases of otitis media we are impressed with the seriousness of the disease we are treating and therefore the importance of proper and timely therapeutic measures. The terminations are, according to Milligan and Windgrave, as follows:—

(1) Complete cure with cicatrization of the perforation and restoration of hearing.

(2) Cicatrization of the membrane with continuance of a sero-mucous discharge within the tympanum.

(3) Cicatrization of the membrane with adhesions to the

*Read at New England Otilogical Society, Boston, 1912.

inner tympanic wall, with intra-ossicular adhesions or adhesions of the foot plate of the stapes to the margin of the fossicula ovalis. (This latter must be differentiated from rigidity of the stapes found in oto-sclerosis. This is quite a different process and not related, as we understand its pathology, to any acute inflammation.)

(4) Extensive destruction of the membrane with or without exfoliation of the ossicles and with a resulting high degree of deafness.

(5) Paresis of the intra-tympanic muscles.

(6) Chronic otitis media.

I will omit any mention of the complications, as they are familiar to you all and do not come under the title of my paper.

We all have had cases who complain of earache and moderate deafness in which there is a mild inflammation of the membrane tympani as is seen in the dilation of the vessels along the long process and distension of the radial vessels, which course from the handle to the periphery. This case rapidly improves and all the symptoms quickly subside. Whatever meatal medication has been used, though it has never reached any pathological process, to it is ascribed the credit.

The pathological process present was a swelling of the antro-tympanic muco-periosteum, shedding of the epithelial lining and an exudation of leucocytes. If the disease involves chiefly the area about the tubal orifice the secretion will contain a greater amount of mucus which becomes more opaque before clearing up.

The disease may not limit itself here, but continue as in other inflammations, the underlying factors of which seem identical with the indefinite and little understood factors determining the course of any inflammatory process. This exudate may consist of leucocytes, erythrocytes and serum of varying quality regarding its coagulation capacity, thus we have our cells found as fluid pus or with pus more coagulative in nature. In a typical acute inflammatory process, the cytological picture is as follows: At first the polymorphic leucocytes are found and which are added to in the third day by mononuclear lymphocytes and epithelial cells. Various stages of granular degenerations

are found as shown by staining methods. The presence of tympanic epithelium is limited to acute inflammation. White blood cells become fewer as suppuration is prolonged, red blood cells only being found as a rule in the early stages, especially in the membranous type when only a few drops of serum may be found on incising the drum. Exudation may, therefore, reveal three kinds of fluid:—

(1) A thick, tenacious mucoid mass very difficult to remove, even by suction.

(2) A scanty sanguinous or serous exudate which may or may not contain red blood cells.

(3) White creamy pus more or less sanguinous associated with many leucocytes and multi-microbic infection, the common type.

In the membranous type, Klebes-Loeffler bacillus is not often found. This process is usually associated with the pneumococci, diplococcus catarrhalis, and another bacteria. Windgrave gives the commonest organism found in order as follows: diplococcus catarrhalis, pneumococci, streptococci, and staphyloccii. The bacillus mucosus and influenza bacillus alter the clinical picture so much that mastoid involvement may be very early and extensive without any marked alteration in pulse, temperature or comfort. When the tympanic cavity is involved in any acute inflammation it seems only reasonable that the aditus and mastoid antrum are also affected. In fact in children the mastoid antrum is, as a rule, the point of greatest involvement, and in some cases the tympanum may be overlooked as the initial infection because of its mild involvement while the infection continues unabated in the mastoid antrum.

The membrani tympani is involved in various ways. Intralamellar accumulations are common, bullae clear or opaque may form or ecchymosis from blood extravasation between the fibrous and cutaneous layers.

The degree of deafness depends not on the condition of the drumhead, but rather because of the swelling of the mucoperiosteum of the foramen ovali and rotunda interfering with labyrinthine conduction. Furthermore, this whole intra-tympanic chamber may be filled with tough coagulated lymph, im-

bedding the ossicles and occluding the ostium tubae. Arthritic and mysoital changes interfere with ossicular movement.

With this understanding of the pathology of the disease we are in a position to consider some of the indications for treatment. This is usually considered from two standpoints, viz.: (1) Before the discharge appears through the drumhead; (2) After perforation has taken place. To these I think we should add a third, viz., after the discharge has ceased: for the resulting deafness is more speedily relieved by further treatment.

(1) Before the discharge appears. The main indication here is to relieve pain and restore the tympanum to the normal state. This does not necessarily mean to provide an exit for the discharge, for if the case be one in which the inflammation is to be of short duration without the formation of yellow pus under tension, there will, in a majority of cases, be no perforation in the drumhead.

Four conditions may be found on examining the membrane (1) A reddened membrane with or without bullae, intense injection of the membrane, radiating vessels with varying degree of injection of the pars flaccida. Here, general rather than local treatment is indicated. The patient should be put to bed or at any rate kept in the same temperature and a smart purge administered. Internally the use of aconite, liq. amon., acetatis and Dover's powder will be found of value. If the pain is not relieved by the opium powder one may have to give morphia hypodermically. Externally dry heat is preferred to cold by most patients. The Leiter's coil, hot pad or the small Japanese ovens are convenient methods. Leeches are of distinct service, poultices are usually dirty and favor subsequent granulation if the suppuration process continues with discharge through the membrane. Many combinations are used for installation into the external auditory meatus. Warm cocaine solutions with laudanum are popular, but I have not been able to assure myself that they do much good. Chloroform vapor is highly extolled by Luk. Carbolic acid and glycerine (1-40) seem to relieve many cases. The carbolic has anesthetic as well as disinfectant properties, but one must not forget that it has escharotic properties as well. Any osmotic

action the glycerine may have must be very small and negligible. Gray strongly recommends the use of a solution of iodoform in analine oil. I have found this of the greatest service and it has saved me, I am sure, from incising a number of drumheads.

Attention to the nose and naso-pharynx should not be neglected. Inhalation of steam containing benzoin, eucalyptus or menthol, which a French author says enters into all our sauces, gives at any rate a feeling of relief to the congested mucous membrane. The naso-pharynx should be cleansed with a warm isotonic spray, forcible douching should be prohibited. Pigments of silver or its derivatives are frequently used, but should be in weak combinations and applied with a minimum of trauma. It is well to make sure that the external auditory canal is rendered sterile and while this is probably impossible from a bacteriological standpoint, one must not attempt to realize this by too energetic treatment.

The question of inflation naturally arises. Those opposed to any inflation in middle ear suppuration suggest the danger of forcing infective material into the mastoid antrum and so infect the mucous membrane. If our previous understanding is correct this has already occurred and one cannot produce by the air douche what already exists. If the Eustachian lining is swollen and firmly in contact so that whatever drainage function it has is temporarily gone, a gentle inflation seems to me to be indicated and should not be condemned because some over-do it.

Incising the membrane in this class of case is not called for and is almost always followed in a day or so by yellow pus.

Our efforts are fortunately often followed by a subsidence of the inflammatory process. Assuming on the contrary that the case does not improve, exudation continues within the tympanum with or without liquefactions. Intra-lamellar abscesses form and evidences of increased pressure occur as is seen by some bulging of the membrane. This usually takes place in the posterior inferior quadrant, but may be confined to the Shrapnell's membrane. If nature has not made an opening which she is prone to do at the site of a lamellar abscess we are forced to incise the membrane. Gray says, with which I

heartily concur, that paracentesis is performed far too frequently and often without due regard to the pathological process or nature's ability to combat it. An exception may be made in those cases associated with scarlet fever and diphtheria, a common combination.

The appearance of a yellow spot in a bulging membrane is the indication of paracentesis. In infants, incision of the membrane is not often called for, in fact, Hartman deprecates any surgical procedure in such patients, unless there is decided constitutional disturbance.

A few words as to the operation if it can be called an operation, may well be made here. The incising of an inflamed membrane is very painful without an anesthetic. The pain may be greatly lessened by the use of a 20 per cent. solution of cocaine in analine oil. A white appearance of the membrane after using this oil denotes a favorable case. There does not seem to be any sloughing of the cutaneous layers as appears when strong carbolic applications are used. General anesthesia, gas, ether, or chloroform in children may be required, especially is this the case in patients exhausted by the intense suffering they have endured. Gas appears to be the most satisfactory general anesthetic.

Generally speaking it is better to make the centre of the incision at the yellow spot, at any rate if one is to err, let it be on the side of being too long, even to extending it into the auditory canal. No danger need be anticipated from cutting the chordi tympani, as it is quite high up and behind the short process. A small stab or scratch is of too frequent occurrence. Some advocate incising also the mucous membrane of the inner tympanic wall, but this is to be deprecated. The pars flacida should be incised by a separate cut if it is bulging, as neglect to do this results in a continuation of the pain, when the patient has been assured that very great relief will follow opening his drumhead.

The effect of our incision so far as the discharge is concerned depends on (*a*) the type of inflammation; (*b*) the amount and consistency of the tympanic exudation, together with the pressure to which it is subjected. We may get sero pus, yellow pus or nothing at all, the latter in cases of membranous

exudation. A distinct yellow spot is never present without free pus. If we have little or nothing to show from our incision we may be sure that in a short time a free discharge will take place.

The position and kind of incision are important. I am in favor of a straight incision in the posterior inferior quadrant extending from a point opposite the junction of the upper and middle third of the long process well down to the floor. This cuts the radiating and circular fibres of the middle layer of the membrane at right angles while their contraction assists in keeping the opening free. A circular incision near the periphery is liable to follow the annulus tendinosis where the circular fibres are most numerous and radiating fibres are absent.

If the pain is not rapidly relieved the question of pus being pent up in the mastoid antrum arises which comes under the head of complications and will not be further considered.

A little warm cocaine solution poured into the ear is comforting after a paracentesis without free discharge, in fact a watery solution is of material assistance in encouraging liquefaction. A piece of sterile gauze in the canal acting as a wick is the usual after-dressing. Subsequently dry heat should be continued as it is comforting and assists in relieving the distress.

(*b*) Treatment after perforation has taken place. Most of us have seen cases in which we have provided free drainage, go on to mastoiditis in spite of all our efforts. I am sure we have often thought we have left undone things we should have done, may be done things we ought not to have done. Have we not often times done too much, have we been too impatient or too energetic. We helped nature by providing free drainage and then turned round and ignored nature's efforts entirely.

My own conviction regarding the best treatment to carry out for the first few days following the discharge is to leave the ear almost alone, aspirating with Seigle speculum may be permitted, no syringing, no instillations, simply removing the discharge with cotton applicators, in fact Haigny advises what he terms the dry indifferent treatment which consists simply in drying out the meatus with sterilized cotton wool plugs, after

which dry gauze, impregnated with chinolin, napthol is packed gently into the meatus. This antiseptic has no irritating properties. He maintains that by following this line of treatment complications are rare and the duration lessened by one-half.

As the disease, however, progresses, our treatment should become more active. The use of boric acid as advised by Bezold does not seem to be rational. In the first place it does not reach the tympanic cavity unless there is a large sloughing of the drumhead and even if it does it has so little therapeutic properties that little or nothing should be expected except that drainage would be interfered with. Later in the case when all secretion is lessened a film of powder blown into the tympanum has a slight stimulating effect, probably mechanical, rather than chemical.

Syringing removes the discharge from the external ear. The stream should be directed against the meatal wall. It makes but little difference what fluid is used so long as it is warm and non-irritating. A fluid of strong bactericidal qualities may be very irritating to the tympanum.

Instillations are almost universally used. Boric acid and carbolic in glycerine, bichloride, etc. What one wishes to do is to remove the discharge consisting of mucin, globulin and fibrin in varying amounts with pus cells. Bichloride of mercury forms albuminate of mercury, a very insoluble compound. Most disinfectants precipitate the globulins. If, however, a 2 per cent. solution of sod. sulph. to dissolve the mucin and globulin and a 2 per cent. of sod. carb. to break up the wall of the pus cells are used we accomplish our object best. To this, one may add a 1-3,000 solution of hydrag. bin. iod., which does not precipitate the globulin. Hydrogen peroxide has many advocates, and in the presence of a good drainage I think well of it. Some authors, notably Gray, deprecate the use of H202 or watery solutions, claiming that the presence of water is badly borne by the middle ear. He prefers diluted rectified spirits, the alcohol apparently preventing the deleterious effects of the water.

Again the question of the air douche comes up. With a large perforation I cannot see that harm results, the same re-

marks regarding producing harm apply at this state as in the earliest stages.

One often hears the statement that the perforation closes up and another incision is required. Healing has not occurred in these cases, but the edges of the incision are firmly held together by serum, and probing is all that is required. Occasionally the swollen mucosa shows itself in the perforation as a little pouting point. This may hinder drainage and should be cauterized by silver, or if at all large may be pulled or snared off.

The use of irrigation per tubam has few advocates. I have no experience with it in acute cases, but in sub-acute cases my experience is favorable.

Biers' passive congestive treatment and vaccine have been thoroughly tried but have not supplanted the other methods.

I attach considerable value to the suction treatment, not the intermittent as with Seigle speculem, but the continual. All recesses of the tympanum are drained, and especially are we able to empty the mastoid antrum. We favor serous exudation which helps to flush the superficial layers of the mucous membrane from within. Our ability to keep this cavity clear may decide the question of further mastoiditis or a chronic aural discharge.

The amount and persistence of discharge influences very greatly our ideas of the inflammatory process. A profuse quantity of yellow pus constantly pouring from the tympanum and filling the auditory canal several times a day surely cannot be secreted by the tympanum alone. The mastoid antrum and possibly the adjacent cells are also involved either as a simple empyema or an empyema plus necrosis. If this discharge persists for several weeks I am satisfied that post aural drainage is a wise procedure. I know I will be accused of operative fervour, nevertheless, I advocate this simple opening of the mastoid antrum for several reasons.

(1) The discharge will stop in a few days at most.

(2) Preservation of hearing.

So long as pus is being secreted in the ear, so much longer is the delicate epithelial lining subjected to necrotic process, and so much more connective tissue results. We see so many

cases of obstructive deafness in which a history of former middle ear discharge is given, and which modifies our prognosis, depending sometimes on the objective disturbances in the tympanum that I feel any measure likely to modify the suppurative process should be considered from the prevention of deafness standpoint.

I do not wish to be understood as advocating clearing out the mastoid in these early cases, I mean opening the antrum, simply draining it, not curetting or clearing it out in any way. One will doubtless find a hemorrhagic condition of the mastoid cells, but if actual necrosis has not occurred, there is not any necessity of extensive removal of bone.

In these cases which still persist, a small perforation with a thin serum or mucous discharge, the use of ammonium chloride vapor seems to be especially indicated, also to assist absorption of the swollen mucosa.

In young children we have the ever common adenoid to attend to, and while I realise middle ear infection is not uncommon, following the removal of adenoids I suggest their removal in otitis media with discharge.

"We may, however, have an inflammation of the main cavity of the middle ear, evanescent in type, and producing no symptoms, but the same inflammation in the attic where it in reality began may be sufficiently acute and accompanied by so much infiltration and swelling of its lining membrane as to close the orifice left below the neck of the malleus, the long process of the incus and the constricted walls at the base of the attic. In this type of case there is usually only slight deafness. A feeling of weight in the ear with more or less pain. Here the inflammatory area is mostly confined to the attic. Bulging occurs early and may easily simulate a small over-hanging granulation through the tip of which pus may appear in using the Seigle speculum."—*Lake.*

The accompanying table is by Professor Witmaäch of Jena.

Kind of Suppuration according to Localization, Extent and Severity.	Method of Infection.	Otoscopical Findings.	Condition of Mastoid Process.	Exudation.	General Symptoms.	Course.
Ia. Tubo-mesotympanale, mildest form, without pus and without perforation.	Occurs mostly after acute catarrh of the upper air passages, sometimes accompanies chronic nasal, pharangeal and laryngeal affections.	Mild diffuse redness of the drumhead, the contour of the handle of the malleus is still recognizable, there is no bulging and no perforation.	Normal.	Serous, sometimes muco-serous, mostly without discharge through the external auditory meatus.	Moderate pain in the ear, otherwise dependent on the symptoms due to the acute and chronic catarrh of the upper air passages.	Usually a few days, otherwise it changes into Form Ib.
Ib. Tubo-mesotympanale, severe form, with a great deal of pus and perforation.	The same as in Ia, occurs especially in chronic rhinitis, whooping cough, laryngitis, bronchitis and bronchopneumonias in children, also from ozoena, chronic naso-pharyngitis, phthisis and other chronic affections of the upper air passages and the lungs.	Marked diffuse congestion of the drumhead, no localized but general bulging outwards of the drumhead can usually be recognized. Perforation mostly in front of the handle, rarely behind.	Normal.	Mucous, sometimes purulo-mucous. Bacteriological examination shows mostly erysipelatus, lanceolatus, or staphylococcus and usually mixed infection.	Moderate pain in the ear, the other symptoms are dependent upon etcological factors due to the affections of the upper air passages.	Very changeable, usually follows the course of accompanying infections of the upper air passages. Mastoid is never involved, frequently degenerates into recurring and chronic muco-purulent suppuration.
Ic. Necrotic Form.	Ascending infection in the nose and pharynx due to gangrenous scarlet fever angina.	Necrosis and sometimes total obliteration of the drumhead.	Normal.	Purulent, often fœtid. Bacteriological examination shows mostly erysipelatus, and mixed infection.	Dependent upon scarlet fever.	At least some weeks, frequently changes into recurring and chronic suppuration.
IIa. Epiretrotympanale, mild form, not purulent and not perforative.	1. Due to ascending infection from Ia. 2. Due to infection from perforated otitis-media. 3. Secondary from infectious diseases and septic processes. 4. Primary.	Marked or moderate congestion, bulging behind and above the handle, anatomical points of the drumhead can frequently be recognized, sometimes there are hemorrhages usually no recognizable perforation.	Usually sensitive to pressure in the first few days especially with children.	Usually no exudation, rarely it may be small in quantity, serous or sero-sanguinolent.	Usually the general system is markedly influenced, usually severe pain, frequently high temperature, especially with children.	Usually lasts 6 to 10 days, generally there is a crisis on the third or fifth day, otherwise it passes over into Form IIb.
IIb. Epiretrotympanale, severe form with a great discharge of pus or perforation.	The same as IIa. 1. As ascending infection from Form Ib. 2. From exudation from otitis-media. 3. Secondary from infectious diseases. 4. Primary.	Frequently great desquomation of epithelium from the ear drum, intense congestion, bulging of the ear drum above and behind the handle, perforation usually not recognizable	Usually very painful the first days, then gradually decreasing, exceptions to the rule are found with very thick cortex and atypical course in adults.	Very profuse sero-purulent muco-purulent, sometimes creamy purulent.	The general condition is usually markedly affected, frequently high temperature and severe pain in the first days, usually quickly subsides.	Usually several weeks according to the variety of infection, sometimes passes over into mastoiditis.

Kind of Suppuration according to Localization, Extent and Severity.	Method of Infection.	Otoscopical Findings.	Condition of Mastoid Process.	Exudation.	General Symptoms.	Course.
IIba. Epiretrotympanale, severe form, due to streptococcus, erysipelotosus.	Frequently due to secondary and ascending infections, and especially frequent in children rarely primary.	Same as described in IIb.	The same as described in IIb, sometimes the mastoid is not painful to pressure, on account of the thick cortex.	The same as described in IIb, bacteriologically the streptococcus, erysipelotosus is usually found.	Besides those from the otitis, also those arising from the primary infectious diseases.	About 3 or 4 weeks, in 25 to 30 per cent. of the cases it passes over into mastoiditis.
IIbb. Epiretrotympanale, severe form with diplococcus, lanceolatus, or staphylococcus.	When the lanceolatus is present it is frequently primary or secondary to croupous pneumonia, never due to the causes as described to IIb.			Frequently very thin serous, sometimes seropurulent, bacteriologically, diplococcus, lanceolatus or staphylococcus aureus (citreus or albus) are found.	General symptoms in children frequently the same as in acute infectious diseases.	About 2 or 3 weeks, only exceptionally does it pass into mastoiditis.
IIbg. Epiretrotympanale, severe form with streptococcus-mucosus.	Usually primary, especially after prodromal stage, occurs almost without exception in adults from taking cold or getting wet, is very rarely secondary or due to ascending infection.	As described in IIb, with an atypical course, sometimes very little change in the drumhead, a perforation is usually not observed, or if present closes very quickly.	As described in IIb, sometimes with an atypical course, there is no pain on pressure, may be due to a thick cortex.	As described in IIb, atypical cases very slight, bacteriologically are mostly found streptococcus, mucoso, in smear preparations with the Thionin stain are found red capsules.	With an atypical course at the beginning there are usually very few general symptoms, sometimes the symptoms change periodically.	About 4 weeks and longer, with the interval form sometimes some months, in about 75 per cent. of cases there is a sudden transition into mastoiditis and endocranial complications.
IIc. Epiretrotympanale, necrosed form.	Usually after scarlatina (early stage), mostly after phlegmenous inflammation of the pharynx and tonsils	Violent desquamation of the epithelium, exfoliation of necrotic tissue and sometimes of the necrotic bones of the middle ear	Always painful to pressure	At first usually slight, later pure pus and mostly fœtid, bacteriologically are found streptococcus, erysipelatos and mixed infections.	Mostly due to scarlatina, as well as general infection, sepsis, etc.	Four weeks and longer, frequently followed by mastoiditis with necrosis of the bones of the middle ear and labyrinth.
Mastoditis.	Follows epiretrotympanale IIba (b), g and IIc.	As described in IIb. also a sinking of the upper and posterior part of the auditory meatus.	Painful to pressure the first few days, or it recurs after diminishing for some time, later there is œdema, infiltration, abcess, and in the atypical cases where the pain disappears there may be a breaking through into the cranium.	As in IIb, later, purulent, creamy pus or purulo-sanguinolent.	Same as in IIb, with a continuation of the symptoms for over a week, eventually renewed and increase of the symptoms after apparent betterment. This may be followed later by hemicrania or paralysis due to intercranial involvement.	Occurs usually 2 to 4 weeks after erysipelas, sometimes later after streptococcus mucosus, and frequently occurs after weeks and months of apparently otitis media.

INTERESTING CLINICAL WORK

BY JOHN CHRISTIE, M.D., STAYNER.

I HAVE used Bannerman's Solution for two years, always with definite and rapid increase of hemoglobin, never with any bad or troublesome result. Following is report of case of phthisis treated by Bannerman's Solution:

R. R., age 45, male, farmer. In April, 1911, treated him for pleurisy, without effusion. In July, 1911, another attack of pleurisy, which I treated for two weeks and then diagnosed phthisis, affecting lower lobe of left lung posteriorly. Sputum examination showed tubercle bacilli very numerous. Condition of patient at this time was as follows:

Cough—Very troublesome.

Expectoration—Plentiful; half-pint or more a day; offensive odor.

Weight—Rapidly falling. Later, after some gain, was 110 pounds.

Appetite—Very poor; anemic.

Temperature—100° to 103°.

Pulse—100 to 140. Night sweats.

He was treated in usual way until Sept. 5. Had bed on verandah, which he never left. Appetite could not be improved. All symptoms and signs getting worse. I judged at this time that he would not live more than a few months.

Sept. 5.—Given 8 c.c. Bannerman's Solution in median cephalic vein.

Sept. 12.—Temperature 100° in the evening. Cough less. Expectoration less. 10 c.c. Solution given.

Sept. 19.—Temperature normal; pulse slower. Cough and expectoration very much less. Had been up and about the lawn during previous week. Appetite improved.

Oct. 4.—Temperature normal, and had been so continuously since last treatment. Pulse 100. Cough and expectoration very much less than previous week. Appetite voracious; has been eating everything brought to him, and as often as it was offered.

Gain during previous week 1 pound a day. Looks well and feels well. 10 c.c. Bannerman's Solution given.

Oct. 18.—Weight now 145 pounds. His usual weight. Temperature normal always. Patient up nearly all day. Eating and sleeping well. Very little cough or expectoration. Physical signs still present, but symptoms have all disappeared except rapid heart. This persisted until the spring of 1912.

During summer and harvest of 1912 he did his usual work on the farm, and now appears to be perfectly well.

Five treatments in all were given.

There is absolutely no doubt as to cause of his rapid recovery.

Society Proceedings

APRIL MEETINGS OF THE ACADEMY OF MEDICINE, TORONTO

Stated meeting, Tuesday, April 1st. Chairman, H. J. Hamilton; Secretary, W. Harley Smith.

This was one of the most largely attended meetings for the year, the rooms being crowded to capacity. The evening was devoted to a Symposium on Tuberculosis, the following addresses being delivered:

1. Tuberculosis of the Chest in Children. H. C. Parsons.
2. Clinical Manifestations of Pulmonary Tuberculosis. J. H. Elliott.
3. Tuberculosis of Bones and Joints. C. L. Starr.
4. Use of Tuberculin. A. H. Caulfield.
5. Treatment of Tuberculosis. C. D. Parfitt, Gravenhurst. (By invitation.)

The following Committee on Nominations was elected. Their "slate" will be put in at the Stated Meeting on Tuesday, May 6th: W. H. B. Aikins, H. B. Anderson, J. A. Amyot, H. A. Bruce, Graham Chambers, J. H. Elliott, J. Ferguson, J. T. Fotheringham, H. J. Hamilton, E. E. King, H. C. Parsons, N. A. Powell, G. Silverthorn, Harley Smith, D. J. G. Wishart, W. A. Young.

The Section of Pediatries met in the Hospital for Sick Children, on Thursday, April 3rd. The following was the programme:

I. Clinical Cases:
   1. An Unusual Case of Ectopia Vesica. F. N. G. Starr.
   2. (a) A Teratoma in a Child of eight weeks.
      (b) A Simple Bone Cyst in the Femur. C. L. Starr.

II. A Preliminary Report of the Friedmann Cases in Toronto. H. C. Parsons.

Dr. Harold Parsons was elected Chairman, and Dr. G. F. Boyer, Secretary.

The Section of Ophthalmology and Oto-Laryngology met on Monday, April 7th. It was a clinical evening and consisted of the presentation and discussion of cases.

Dr. D. H. Maclennan was elected chairman of the Section of Ophthalmology and Oto-Laryngology and Dr. T. A. Davies was re-elected secretary with Dr. F. C. Trebilcock editor.

The Section of Medicine met on Tuesday, April 8th. Cases and Case Reports were presented by: W. Goldie, R. J. Dwyer, W. B. Thistle, Jno. A. Oille, J. H. McPhedran, Graham Chambers.

Dr. J. T. Fotheringham was elected chairman of the Section of Medicine, Dr. F. C. Harrison secretary, and Dr. Rolph editor.

The average attendance at the Medical Section during the past winter was over 90, a remarkably good showing. We congratulate the retiring chairman, Dr. H. B. Anderson, on the able way in which he has conducted the affairs of his department.

The following was the programme of the Section of Surgery which convened on Tuesday, April 15th:

1. The Ileo-Cecal Region. A Primrose. (Demonstrated with lantern slides.)
2. Is the Cecum a Cesspool? V. E. Henderson.
3. A Method of Fixing the Hip-Joint after Excision. W. E. Gallie.
4. (a) Carcinoma of the Cecum (specimen).
   (b) Vesical Calculi Specimens. Edmund E. King.
5. Report of a Case of Hysterectomy (specimen—carcinoma). A. C. Hendrick, S. A. Cunningham.
6. Acute Abscess behind Prevertebral Fascia. N. A. Powell.

Section of Pathology, Tuesday, April 22nd.

1. Autopsy specimens.
2. Hemolytic power of extracts of the organs in Pernicious Anemia. Fletcher McPhedran.

Section of State Medicine, Thursday, April 24th.

1. Attenuated Living Cultures as Vaccines, with special reference to Dr. Friedmann's Products. A. H. Caulfield.

Owing to going to press so early we are unable to report as to the election of officers in the Sections of Pathology and State Medicine.

Medical Jurisprudence

INSANITY IN ITS LEGAL ASPECTS

BY THE HONOURABLE WILLIAM RENWICK RIDDELL, L.H.D., ETC.
Justice, King's Bench Division, High Court of Justice, Ontario.

A WORD WITH ALIENISTS.

Early one morning a doctor and a policeman going along the street found a man lying opposite a store. Enquiry soon disclosed that he had a broken leg. To the medical man, the sufferer at once became the patient, but to the policeman, he remained only a possible burglar. To the doctor, it made no difference whether the man was the most hardened criminal in the world; his art and science are wholly at the disposal of a Bill Sykes as of a Seth Pecksniff or a Ned Cheeryble. To the policeman, it made no difference whether the stranger had one broken bone or fifty, whether there could be a cure without shortening or whether he could ever expect to walk with ease again. What the policeman was concerned with was, "Had the man been breaking the law? and, if so, what was the available evidence?"

They both took part in conveying him to the hospital, the doctor that there might be a better chance of perfect recovery, the policeman that he might the better know where to put his hand upon the suspected. Had a clergyman happened along, he would probably have been anxious about the poor man's spiritual condition and the salvation of his soul; these to the physician were only of importance as they bore upon the treatment and prognosis (and that would be almost if not quite infinitesimal), while the policeman, as policeman, would care nothing about it at all, and would not be inquisitive even as to whether the man had a soul at all, and, if so, whether it was worth saving or trying to save. Now, none of these viewpoints is higher than either of the others, but all are radically different.

It is from not bearing in mind the different aspects from which the same facts are to be and are considered, that there is so much disputing about the insane; so much time wasted in the courts over expert testimony, and so much contempt expressed by the lawyer for the medical expert on insanity, only equalled by the contempt of many a medical expert for the rules of law in that respect.

If it should happen that a judge were called in by a medical man to assist in the treatment of an insane man, he would necessarily follow out the methods of medical treatment. And so, where a medical man is called upon to assist in the administration of the law, he must adapt himself for that occasion to the principles of the law. Neither judge nor lawyer need, while assisting in the province of the other, abandon the views he holds in his own province—nor does he. To the medical man, the insane person is a sick man to be treated for his disease, and it is a matter of indifference whether he is a criminal or not; to the judge, it is a matter of indifference whether a prisoner or a litigant be insane or not, the question is, is he capable of making a contract? is he responsible for his acts?

One more thing before attacking our main theme—the judge does not make the law; that is either a matter of tradition or of legislation, in either case of binding authority. He cannot change or avoid the law—for which he is no more responsible than the doctor is for the insanity of a patient or for the laws of nature governing insanity. And this law is binding upon all citizens, and all good citizens should obey the law in this as in all else. If the law does not suit the doctor or any other person, he may do his best to have it changed by Parliament; but it is the bounden duty of every one to obey the law so long as it is law.

As most of the instances in which medical men come in contact with the law are cases of insanity, real or alleged, I have thought it not without advantage to deal with the law in respect of insanity so far as medical men are likely to be affected.

Sometimes a doctor is called upon to examine one alleged to be insane, in order that he may be committed or declared by the courts to be insane. The opinion of a medical man is considered by a Court practically worthless if given simply as an opinion. The Court determines the question of insanity, and requires the

medical witness to set out in his evidence, affidavit or otherwise, in full, his reasons for his conclusions. Care should be taken to preserve and transmit all conversation (if any) and all other indicia from which the practitioner has formed his judgment.

Again—and this is the most frequent case—a medical man is called as a witness in court upon the question of insanity. He may be an ordinary, though skilled, witness to set out the facts of the condition of the person whose mental state is under investigation, or he may be an expert witness called simply to give an opinion, or he may act in each capacity.

A witness should always bear in mind that he is not the person who is to decide any question of fact; that is for the Court or the jury, as the case may be: nor is he to decide any question of law; that is for the judge alone.

The most commonly occurring occasions for such evidence are (1) when the capacity of a testator to make a will is under investigation, and (2) when the question is whether one who has committed a violent act is responsible to the criminal law.

In neither of these inquiries is the insanity of the party *in itself* of the slightest moment—hundreds of insane persons have made valid wills, and hundreds of insane persons have been executed. If people do not like that law, let them get it changed; but for the present that is the law.

That medical men may know how to conduct their examinations, and in what direction to make and to press their enquiries (for a superficial enquiry is often worse than none at all), I set out the rules of law in each case.

In the case of wills it was for a long time thought to be the law that if the mind of the testator was affected by insanity at all, since the mind was supposed to be one single and indivisible entity, then, being affected, it must be unsound, and, as a consequence, testamentary capacity was wanting. As it was put, "Any degree of mental unsoundness, however slight, and however unconnected with the testamentary disposition in question, must be held fatal to the capacity of a testator." But that is not the law.

If one making a will understands what a will is, what its effects are and that he is making a will—if he understands the extent of the property he is disposing of—if he is able to compre-

hend, remember and appreciate the claims to which he should give effect, for example, claims of relatives, then he is far on the way to be considered competent to make a will, although he may be and may for years have been insane. Then, in the consideration of the claims to which he should give effect, there must be no disorder of the mind which poisons his affections, or which perverts his sense of right, or prevents the exercise of his natural faculties. Such would destroy or, at least, imperil his testamentary capacity.

The mere fact of the existence of delusions may not be of importance—it is not of importance if the delusion neither exercises nor is calculated to exercise any influence on the particular disposition of property, and a rational and proper will is the result. But if the insane delusion influences his will in disposing of his property and brings about a disposition of it which, if the mind had been sound, would not have been made, that disposition is bad.

A medical man called upon to examine a person as to his testamentary capacity should, therefore, carefully inquire into

(1) His appreciation of the nature of a will and its effects.

(2) His appreciation of the property he has to dispose of.

(3) His appreciation of the property he was disposing of by will.

(4) His recollection of persons having claims by kin or otherwise upon his bounty, and his comprehension and appreciation of such claims.

(5) His mental condition, whether so disordered by insanity of any form as to affect his disposition toward such persons, or to change his normal view of right, or to prevent the exercise of his faculties.

(6) Are there any delusions?

(7) If so, are they of such a nature as to influence him in disposing of his property otherwise than he would, were the delusions absent?

In criminal cases, the question of the existence of insanity is also wholly unimportant. It is not the law that an insane man is not responsible before the law. To the physician, as physician, the insane man is sick and requires treatment just like the supposed burglar with his broken leg, but in a court

the existence of the disease of insanity is just as unimportant as the existence of the broken leg.

If the proved insanity is not of such a kind as is recognized by the law as an excuse, it is as though he were not insane at all.

The Parliament has authoritatively laid down what kind and degree of insanity do excuse. If a man suffers from disease of the mind to such an extent as to render him incapable of appreciating the nature and quality of the act and of knowing that such an act was wrong, then the law says he is not to be convicted. No word of the law is to be disregarded. The accused to be acquitted must suffer from a disease of the mind, not simply, but to the extent named—that is, that he is rendered *incapable* of appreciating the nature of what he does—not that he does not appreciate, but that he *cannot* appreciate. And the word *wrong* is not to be interpreted subjectively as it appears to the mind of the accused, for many a man does what he thinks to be right, and still is a criminal.

If an insane man is not affected by his insanity to such an extent but that he is able to know what he is doing—"capable of appreciating the nature and quality of the act," and is able to know that this act is wrong, that is, contrary to the law, even if it accord with his own sense of right, he is responsible in law. Charlotte Corday, when she killed Marat, thought she was doing right—that belief would not excuse her under our law if she knew that she was doing what the law forbade.

Then there are those who suffer from a moral insanity; they do not understand any difference between right and wrong which they are bound to respect. They are as responsible in law as Captain Kidd or any other pirate.

It is said, too, that there are those who, being insane, thoroughly know what they are doing, and know that their act is against the law, but are forced on by an irresistible impulse to shoot or wound another. I once charged a jury in a murder case that the law of Canada says to those who assert that they are moved by an impulse which they cannot resist, "I shall hang up a rope before your nose and see if that will not help you to resist the impulse." No such defence avails in Canada. An English court since that time, and, indeed, but the other day, said, "Impulsive insanity is the last refuge of a hopeless defence."

I am not defending the law—I had no part in making it—I am bound to obey it, and I am simply stating it.

Again, if there be present specific delusions, the law is clear. Place the accused in the position of the delusions being true; then if the act which he does would be justified or excused, he is not guilty of a criminal act; but if not, he is. Let me illustrate. If A. suffers from the delusion that B. is seeking to kill him, and, meeting B., thinks B. is about to kill him, and the only way to save his own life is to shoot B., he is not criminally liable if he does shoot B. But take a case which recently occurred in Toronto. A. thought that B. was spreading the most infamous slanders about him, and, meeting him one day, he shot him. He is liable criminally. The law allows one to kill another if that be the only way to save his own life, but it does not allow the killing of a slanderer, however base.

It may look anomalous to gift in theory one who suffers from delusions with the reasoning powers of one who is wholly sane, but that is the law laid down for us all by the Parliament.

Now, medical witnesses are often fond of laying down what they think should be the law, of saying in the witness box what should be done with an insane accused. That is no part of their duty. If they are not satisfied with the law—and doctors have been girding at it for seventy years and dozens of volumes have been written about it—let them go about it in the right way to have the law changed—use influence with the Parliament, the only body which can make the change. The Court is powerless, and must lay down and apply the law as it actually exists.

That above are the chief occasions on which a medical man meets the law in insanity matters. I add just a word as to capacity to make a contract, rather for the sake of completeness than for its practical importance.

Although insane, one may make a contract binding on himself if he possesses sufficient mind to understand in a reasonable manner the nature and quality of the act in which he is engaged, provided no imposition or fraud is practised upon him and the contract is not grossly inequitable; indeed, a very recent authority goes so far as to lay it down in broad and general terms that a contract made by a lunatic is binding upon him unless he can show that at the time of making it he was, to the knowledge of the other party, so insane as not to know what he was about.

Selected Articles

DEATH BY ELECTRIC CURRENTS AND BY LIGHTNING*

BY A. J. JEX-BLAKE, M.A., M.B., B.CH. OXON., F.R.C.P. LOND.
Assistant Physician to St George's Hospital and to the Hospital for Consumption, Brompton.

It would seem as if sudden death by lightning might occur in at any rate three different ways—by failure of the heart, by failure of the respiration, and by failure of both together. In the vast majority of cases the senses are lost at once, and in most death takes place very rapidly if at all. The extreme suddenness with which it must have occurred, as proved by the natural position of the corpse and its placid expression, has often been noted. As is the case in non-fatal strokes, there is reason to suppose that the nervous system is profoundly affected, though no microscopic lesions may be demonstrable.

1. *Death by failure of the heart,* which may be supposed to be thrown into a state of fibrillation, is assumed to be the commonest mode of death by lightning; in man it is probably final and irremediable, although the respiration may continue for a short time. The face in these instances is pale, free from congestion.

2. *Death by failure of the respiration* from Brown-Séquard's inhibition, while the heart continues to beat until asphyxia stops it, would explain why so many of those killed by lightning present all the *post-mortem* appearances of death by asphyxia. Such deaths might be averted by artificial respiration, continued until the respiratory centre in the bulb has had time to recover from the injury inflicted on it by the stroke. In non-fatal cases it has been noted that the patients' symptoms were those of asphyxia or the breathing of irrespirable gases; Nick records an instance in which gradual failure of the respiration became complete in

* Delivered before the Royal College of Physicians of London.

about four hours. Apparent death may last for three-quarters of an hour, yet be followed by recovery (Sahut). Kelly has described an instance where the heart was still beating ten or fifteen minutes after the stroke, though respiration had ceased; but in this instance artificial respiration did not restore life.

3. *Death by Failure of the Heart and Respiration together.*—It is probable that this form of death occurs after lightning-stroke, just as it may after the passage of industrial electric currents; but I do not know of any evidence to prove that it does.

4. In a very few cases, mentioned already, gross lesions of the brain have been found *post mortem,* and may well have been the cause of death in these instances. The older *post mortem* examinations very generally failed to bring to light any pathological changes in the central nervous systems of the victims of lightning-strokes. It is possible that the more delicate modern methods of investigation would not give such negative results here.

PROGNOSIS.

Unless sudden death follows, the probability that a person struck by lightning will recover is large; Dechambre collected 365 instances in which the immediate effects of the stroke were survived, and found that only 15 of these victims died subsequently from late effects of the lightning. It seems to be very generally assumed that immediate treatment would improve the prognosis considerably, and that many of the people killed by lightning are only apparently dead, and still capable of recovery if properly treated during the next few minutes. I do not know of any statistical evidence to prove this point.

PROPHYLAXIS.

The ancient Greeks and Romans protected themselves against lightning by the use of incantations and amulets, and by wearing the skins of animals like the seal, hippopotamus, and hyena (Fougères) that were supposed to be immune to lightning-stroke; they also had the good sense to take refuge in caves or cellars during thunderstorms. An Etruscan—Tages—protected his landed property by setting up an ass's head as tutelary deity, suitably enough. In the Middle Ages flight to England was ad-

vised, as that country was supposed to be free from lightning—a view sadly contradicted by Müller in 1690.

At the present day only general advice can be given, as the accumulated records have shown that no place is completely protected against lightning. It is certainly safer to be indoors than out, and a large house is much safer than a shanty. The windows and doors of the room in which one is should be shut, and one should keep away from the walls, and particularly from the fireplace, because, when a chimney-stack is struck, the contents of the chimney and the fireplace are often blown out into the room and cause bodily injuries. A great many people have been struck in sheds and barns, especially when they have been near doors or windows, or in currents of air. Turley recommended the centre of a railway carriage at a distance from the engine as the securest place of all; Schefcik, a feather bed. To take refuge in the cellars merely to avoid a thunderstorm is not necessary as a routine, though in exceptional cases it may be advisable.

The advice given by various authors to persons caught out of doors in a thunderstorm is contradictory. It is probably unwise to take shelter in a shed unless one can get out of the way of doors, windows, and draughts while one is in it. A shed containing domestic animals is certainly more dangerous than the open. If one has to remain in the open, there are certain things that should be avoided at any cost. The first of these is the proximity of wire fences, because when such a fence is struck the electric discharge may be carried along the wires and cause death at a distance from the place actually struck. The second is proximity to such things as hedges, ponds and streams, isolated trees, crowds of people and herds of domestic animals. Crowds of people or animals seem to have a mild attraction for lightning, very possibly by virtue of the warmth and dampness they impart to the atmosphere immediately round them. Certain varieties of trees are less dangerous than others; in similar conditions the beech is much less often struck than any other tree that is common in Europe, while the oak is very many (perhaps forty or fifty) times more liable than the beech to be struck and injured. This may be because the electric conductivity of beech trees is low at all times of year, beech wood being always rich in fat and poor in starchy matter. Hence, if one had to take shelter under

a tree, that tree should be a beech, and one should not be near its trunk. But to take cover in a forest or wood is quite safe, as trees *en masse* are rarely struck. If one is in quite open country, there is nothing to show whether it is better to be on high ground or in a valley; it seems to be agreed that to lie or sit down is safer than to stand up, that umbrellas should not be hoisted, and that riders and drivers should dismount and not stay near their horses or conveyances. It has often been said that to have had the clothes thoroughly wetted by rain and rendered conducting gives some protection to people who are struck by diverting the path and violence of the lightning from the body to the clothes. I have found seven well-recorded instances in which the effect of the stroke was to blow all, or practically all, the wetted clothes off the body, by the generation of steam, as I believe. There can be no doubt that a part of the energy of the lightning was expended on the clothes in these cases, but three of the seven victims were killed notwithstanding. So the protection of wet clothes cannot be considered at all complete.

Vincent makes an ingenious practical suggestion—perhaps too ingenious. It has long been known, he says, that animals are more liable to be struck than men; hence one should always take a dog out walking in order that if a thunderstorm comes on, the dog, already the friend of man, may also serve as his lightning conductor. In these days, when vaccine therapy is so widely employed, it is not without interest to note that in South Africa both the Zulus and the Kaffirs inoculate themselves against lightning by rubbing into cuts the flesh of animals (bullocks) killed by lightning (Frazer).

TREATMENT.

Persons struck and apparently killed by lightning should at once be given plenty of fresh air, their clothes should be loosened, and artificial respiration by Schäfer's or Sylvester's method should be applied and should be continued until either recovery occurs or cooling of the body and *rigor mortis* show conclusively that death has taken place. In the medical writings of from fifty to two hundred years ago one often sees bleeding recommended, and this might well be of service in those cases of lightning stroke in which the heart goes on beating while the respiration stops.

If it were immediately—within a few minutes—available, to give strong electric shocks to the praecordia would be well worth trying in desperate cases. As regards other remedies—such as stimulants in all forms, hot or cold applications, the inhalation of pungent vapors—very many have been recommended, but none seem to have met with any success.

In conclusion, I may say that it is very highly improbable that any one of us will be struck by lightning. But to the attention of those who are struck and survive may be recommended the French superstition that such people have for forty days the power of curing all kinds of disease by "touching." I may quote for their encouragement the case of a girl of 8 who was struck at Douai, and afterwards "touched" over 600 persons in this way; and, as it is recorded that the parents did not refuse the modest offerings presented by the visitors, one may assume that the girl "touched" their pockets as well as their persons. As regards those who are fated to be killed by lightning, the only consoling thought I have been able to find for them is taken from the recently published diary of Queen Victoria. On June 1st, 1838, the Queen wrote:

"I told Lord Melbourne I never could forgive him for having stood under a tree in that violent thunderstorm at Windsor last year; he said, 'It's a hundred to one you're not struck,' and then added, smiling, 'It's a sublime death.' "—*British Medical Journal.*

IN SYPHILITIC LESIONS

Discussing ulcers of the rectum in Keen's *Surgery*, Vol. VI., p. 626, Robert Abbe, of New York, remarks that, "In the treatment of the syphilitic lesion, salvarsan seems to offer wonderful results. In cases that have resisted mercurial treatment it certainly should be used. Its primary use (after diagnosis by the Wassermann reaction) is widely advocated."

CURRENT NEW LITERATURE

Medizinische Klinik, January 5, 1913.

Nystagmus Retractorius, a Localized Cerebral Symptom.—Elsching arrives at the conclusion that this symptom, consisting of a slight retraction of the bulbi with increased convergence, but without contraction of the pupils, is caused by a cumulative neurosis of all the external muscles of the eye, and depends upon diffuse pressure on the nuclei of the nerves controlling the muscles and their connecting fibres, i.e., a foreign body at the entrance of the aqueduct of Sylvius. The author is not certain whether hemorrhage into the aqueduct of the third ventricle can produce this symptom.

Rapid Opening into the Larynx in Cases of Urgent Asphyxia.—Denker says that from his post-mortem examinations and experiences on the living, intercricothyrotomy is an easily executed and safe procedure, which may be employed as a preliminary to other operations and a life-saving device in many instances. A set of instruments sterilized for performing an intercricothyrotomy should be held in readiness, and is of much more importance than a tracheotomy set.

January 12, 1913.

Migraine: Symptoms, Causes, Nature; Migraine and the Sexual Life.—Caesar's interesting article details the symptom triad of migraine, specific headache, gastric and psychic disturbance. Sympathetic symptoms are: (1) Hemicrania spastica, a sympathetic cramp, and (2) hemicrania angio-paralytica, due to a sympathetic paresis. The first is characterized by pallor and coldness of the face, dilatation of the pupils, thickening of the temporal arteries, and salivation; the second by redness of the face, injection of the conjunctiva, epiphora, narrowing of the palpebral aperture and pupils, and unilateral sweating. The latest statistics show that disturbances of vision, found in 12 per cent. of the cases, are of two types, paretic and visual. As to irritations of the cranial nerves, the trigeminus holds first place. The most important factors in the causation of the attack

are the sexual incidents, namely, menstruation and ovulation in the female. The author discusses the various theories of the irritations of the cortex, plexus chorioideus or hypertrophied hypophysis, increased cerebrospinal fluid, etc.; also, the sympathetic theory, i.e., paresis or spasm of the blood vessel, reflex irritation from the stomach, eyes, etc. Poor function of the endocrine glands is the main cause of the migraine, and, more specifically, the affliction is conditioned by disturbance of the ovary. The weakened activity or complete cessation of this organ influences the headache tendency favorably, while a hyper-function or painful function is the most important factor clinically. The practical therapeutic significance of this is that in a positive case of migraine which has resisted all treatment, sterilization of the patient should be tried, particularly in elderly unmarried women or married women who have borne a number of children. This may be accomplished by the Roentgen ray and does not require operation.

January 19, 1913.

Treatment of Peritonitis.—Schepelman's experiments on animals proved the following: By preparatory treatment of the peritoneum with lime water, its bactericidal action influences the course of the peritonitis in a favorable way, not sufficiently, however, to employ it for practical purposes. By the intraperitoneal injection of homogenous animal blood, the formation of abdominal pus is neither encouraged, improved, nor prevented. The injection of heterogeneous animal blood is decidedly damaging. The great disadvantage in these blood injections is the formation of adhesions.

Arsentriferrol.—C. A. Ewald gave arsentriferrol, first prepared by Von Salkowski, a thorough clinical test, especially as to its acceptability by the organism in cases of gastric and duodenal tumors. In contradistinction to other iron preparations, arsentriferrol gave good results in all twenty-eight cases. In only two cases its administration was discontinued because of the production of pain. In all the others it was well borne and produced an improvement in the blood picture. In some cases of achylia gastrica and in carcinoma ventriculi an increase in the hemoglobin content was obtained. In the case of a man with

acute anemia from hemorrhoidal hemorrhage, the increase in hemoglobin was considerable. This preparation, which has been considered of doubtful value, may, according to these experiments of the author, be highly recommended.

Right Ventricle of Heart and Sport.—Grober had occasion to examine the participants in a competitive manoeuvre before and after the exercises. In only five out of the twenty-five were no changes observed. Two of these were trained soldiers and two were vegetarians. Slight changes, broadening of the heart to the right, decreases in the motility, and expansibility of the lower borders of the lung were observed in four. Actual and important changes were seen in the majority (sixteen), namely, marked dilatation of the right heart, irregularity of the heart action, heart murmurs, collapse, etc. These serious changes, though only temporary, show that in such tests only trained and bodily sound individuals should take part.

January 26, 1913.

Adamon, a Substitute for Valerian in Solid Form.—H. Gudden summarizes his article thus: Adamon furnishes a harmless, effective sedative, the first practical substitute for valerian in solid form which makes possible a course of treatment of long duration, because of its tastelessness and because it does not affect the gastrointestinal tract. The choice of the name is also a happy one, since it does not arouse suspicion of bromides or valerian, a fact which should not be undervalued for patients who have been saturated with either, and demand a new sedative.—*N. Y. Med. Journal.*

Zentralblatt fur Gynakologie, February 1, 1913.

Value of Pituitary Extract in Hebosteotomy (Pubiotomy).—Linzenmeier reports two cases of contracted pelves in which pituitary extract was given and pubiotomy subsequently performed. In both instances the child lived, and no serious injury was done to the mother. The author believes that this procedure may be employed in place of Cesarean section.

Pituitary Extract in Prolonged Gestation.—Stolper reports two cases in which the date for delivery had been passed. Pituitary extract was given, but in both instances the first injection

had no effect. In one instance, after waiting seven hours, a second injection was given, this being followed by the delivery of the child a little more than an hour later. In the second case four injections were given before spontaneous delivery occurred. The author did not notice any abnormal conditions as a result of giving so much pituitary substance, but recommends that both mother and child be carefully watched, particular attention to be paid to the heart action of the infant.

Has Pituitary Extract a Harmful Effect on the Child?—Spaeth briefly mentions some cases by other observers, in which harmful effects appear to have been exerted. He then gives an instance of his own, where the child died a half hour after birth. In this individual the heart beat was visible, but very slow. The autopsy showed nothing positive. The death was evidently due to action upon the heart muscle.

February 8, 1913.

Can Eclampsia be Cured by Injections into the Spinal Canal?—Rissmann does not believe in the placental theory of the origin of the poisons elaborated during pregnancy. He holds that in eclampsia there are injuries done to the brain and cord. In the case reported he injected five c.c. of a sterile fifteen per cent. solution of magnesium sulphate, intradurally. The patient was unconscious, and had had some twelve convulsions. Following the injection no further attacks occurred, and in the course of three days the patient completely recovered.

Treatment of Eclampsia.—Putz gives a brief presentation of forty-five cases of eclampsia coming to his notice. He states that immediate delivery is brought on only in those which are considered severe cases, such as present a very rapid and small pulse, slight amount of urine, and stupor.

February 15, 1913.

Biological Diagnosis of Pregnancy.—Petri makes a five per cent. solution of a peptone, obtained from the placenta, in distilled water, and adds one c.c. of this to one c.c. of the serum of a pregnant woman. The control consists of using a mixture made with the serum of a non-pregnant woman. These are placed in the chamber of a polariscope, put in an oven at 37° C., and

examined hourly. No change is observed in the non-pregnant, but in the other there is a marked effect, due to the action of a ferment in the serum of the pregnant woman upon the placental peptone. Basing his conclusions upon the work of Abderhalden, the author believes that it may be possible to make a diagnosis of pregnancy within the first day after the fertilization of the ovum.

February 22, 1913.

Hematometra at the Age of Eighty Years.—Ottow briefly reviews the matter and then reports a case under his observation. The patient gave a history of the sudden escape of a very large quantity of blood. Examination showed the presence of a carcinoma of the uterus with atresia of the cervix. When the carcinoma had infiltrated the uterine wall sufficiently to cause a point of weakness, it ruptured and allowed the retained blood to escape.—*N. Y. Medical Journal.*

Centralblatt fur Allgemeine Pathologie und Pathologische Anatomie, February 15, 1913.

Coagulation of Blood During the Death Agony.—Franz Rost, on account of its importance from a medico-legal point of view, undertook to determine whether the clots found at autopsy were formed before or after death. As a result of his experiments, he concludes that many of these coagula must have formed during the agonal period.

February 28, 1913.

Colloid Retention in Circumscribed Goitre.—Monogenow, from studying specimens that had been injected with Berlin blue, believes that in struma nodosa there is a retention of colloid material. This condition is due to a lack of normal lymph vessels or to an incomplete union of the lymph spaces with the lymphatic system of the adjacent tissues.—*N. Y. Med. Journal.*

Zeitschrift fur Augenheilkunde, February, 1913.

Vision and Shooting.—Fernand Cluny has studied the vision and shooting ability among the German soldiers, and finds that those who wear glasses prove on the average to be better marksmen than those who do not. Very slight impairments of vision have marked influence on the result.

Treatment of Choked Disc, Especially When Due to Tumor of the Brain, by Palliative Trephining, with Temporary Exocranial Drainage of One of the Lateral Ventricles.—Kaelin-Benziger maintains that the positive diagnosis of a bilateral choked disc furnishes an unconditional indication for the surgical relief of the pressure on the brain. The farther the injury to the optic nerves has advanced the worse is the prognosis for the preservation or the improvement of their functional power by the operation. Spontaneous recovery is rare, and should not be taken into account, because there is no diagnostic criterion that justifies a hope for its occurrence; hence expectant treatment is to be condemned. As the cause of the choked disc cannot be removed in most cases of tumor cerebri, and as it is impossible to enlarge the physiological avenues of escape for the liquor cerebri, the only therapeutic means at our disposal are either a new permanent avenue of escape for the fluid or a permanent enlargement of the cavity occupied by the brain. As a solid tumor is often complicated by a hydrops of the ventricle, it is well to combine exocranial and endocranial drainage with trephining. Exocranial drainage for from eight to twelve days serves two purposes: It lessens the danger of prolapse of the brain, and enables us to ascertain the properties of the contents of the ventricle. Endocranial drainage of the arachnoid space, on the contrary, needs to be permanent. A permanent and sufficient enlargement of the cavity occupied by the brain and a permanent endocranial drainage cannot be made without removal of bone from the skull together with the periosteum, and division of the dura. Simple trephining suffices only in very rare cases. The aperture should be made in the parietal region. Lumbar puncture should be reserved for suitable cases of papillitis of syphilitic origin, or serous meningitis, and of chronic interstitial nephritis in which decompression is contraindicated, and should be performed either by itself or in combination with medicamental treatment. Therapeutic decisions should be guided in every case by the ophthalmoscopic condition of the choked disc, the reduction of which is to be attained under all circumstances.—*N. Y. Med. Journal.*

Presse Medicale, February 22, 1913.

Subcutaneous Injections of Hexamethylenamine in the Treatment of Typhoid Fever.—H. Triboulet and F. Lévy studied in particular the urinary changes produced by this drug. In children over six years of age they gave initial doses of 0.4 gramme morning and evening, then increased the amount until four, five, or six grammes were being given daily, in two doses. A forty per cent. solution was used, either sterilized by exposure to 60° C. for twenty minutes, or prepared simply by dissolving the compound in sterile water. They give detailed records of three cases; all were bathed in addition to the hexamethylenamine treatment. In the first case no abnormality in the urine could be detected; in the other two the drug caused the appearance of vesical epithelium and of pseudoalbumin in the urine, with a mere trace of serum albumin. Later erythrocytes and globulin were eliminated, but serum albumin was barely perceptible. No bladder pain or tenesmus were noted. The transitory urinary changes are attributed by the authors to vesical irritation alone, the kidneys remaining unaffected. The injections were productive of greater benefit than hexamethylenamine taken by the mouth, the tongue becoming moist, adynamia disappearing, diarrhea being reduced, and the urine rendered more dilute. Fever was not of more than three weeks' duration in either case. Large doses of the drug could probably also be used with benefit and without danger in septic states, especially those with elimination of bacilli in the bile and with infectious enteritis.—*N. Y. Med. Journal.*

Semaine Medicale, February 26, 1913.

Supracondylar Fracture in the Atrophied Femur.—F. Lejars states that while cases of supracondylar fracture from relatively slight traumatism in the presence of bone atrophy have so far been reported only in children subjected to prolonged immobilization because of coxalgia or congenital hip dislocation, the same sort of accident may occur in adults. In one case he reports, that of a young man who had "white swelling" of the knee, terminating in ankylosis, the fracture was caused by a misstep in walking; in another case, that of a man forty-two

years of age, previously treated for pseudoarthritis of the right tibia, the fracture occurred while the patient was getting into a carriage. The supracondylar portion of the femur is the seat of election of "fractures by inactivity." Brandes has shown experimentally in guinea pigs the extreme rapidity with which the os calcis atrophies—two to five weeks—after section of the tendo Achilles. The lesson to be drawn from these facts is that during immobilization the bones in certain areas rapidly lose their strength, and a corresponding degree of care should be exercised in the performance of active and passive movements in these cases. It seems surprising, at first sight, that the fractures occurring in atrophied bones generally heal without any difficulty.—*N. Y. Med. Journal.*

Revue de Chirurgie, February, 1913.

Relations of Motor Branch of Radial Nerve to the Radiohumeral Joint, and Their Bearing upon the Surgery of the Elbow.—O. Jacob asserts that in operations on the posteroexternal aspect of the elbow the motor division of the radius is not rarely injured, with resulting paralysis of the extensors and abductors of the hand. He has seen three such cases, in which the operations performed were, respectively, resection of the elbow through Kocher's incision, removal of the upper extremity of the radius, and arthrotomy of the elbow joint for suppurative arthritis. Studying the anatomical relations of the nerve in twenty cadavers, in order to ascertain the limit of safety as regards incisions in this region, the author found that these relations vary according to whether the forearm is in complete pronation or supination. In the former case no incision should extend below an oblique line drawn from a point on the external aspect of the radius four cm. below the radiohumeral joint to a point on the posterior aspect of the same bone, six cm. below the joint. With the forearm in supination, on the other hand, two and four cm. are to be substituted, respectively, for the distances just named.

Separation of the Tibia and Fibula in Fractures Above the Ankle.—Clermont discusses this question at great length, and presents X-ray reproductions illustrating the relations of the bones as he has found them in these cases. He points out that

separation of the tibia and fibula may occur without tearing of the ligaments, by reason of fracture of the lower extremities of the bones, and conversely, has observed clinically that the ligaments may be torn off without separation of the bones resulting. No indirect fracture of the fibula can occur without a certain degree of mobilization of the lower end of the fibula, and to this loosening of the parts the general term "tibiofibular disjunction" may be applied. The necessary mobilization may be brought about either through combined rupture of the anterior, interosseous, and posterior ligaments, or of the first and last of these singly, or may occur through the splitting off of anterior or posterior fragments from the fibula or anterior, external or posterior fragments from the tibia. Clermont would classify fractures in this region into those unaccompanied by disjunction, those in which the fracture gives rise to disjunction, and those in which disjunction is the cause of the fracture. Stereoscopic X-ray views should be taken in examining these cases.

Changes Observed in the Thyroid Gland as the Result of Various Experimental and Clinical Conditions.—E. Martini reports the results of histological study of the thyroid in dogs, from which various other internal secretory glands had been removed, and in human subjects who had succumbed to various infections. In operating on the dogs, a small section of thyroid was always taken in order to supply a firm basis for comparison of the condition of this organ before and after the intervention. Partial removal of the pancreas, or removal of one suprarenal body, kidney, or testicle, was found to have no effect on the thyroid. Total pancreatectomy or bilateral adrenectomy or nephrectomy, however, led to histological changes indicating increased function of the thyroid; removal of both testicles or of the spleen resulted in similar but less marked changes, the toxemia to be counteracted by the thyroid after these procedures apparently being less. In the thyroids taken from ten human subjects who died of pneumonia, indications of increased functional activity were found; in ten typhoid fever cases increased function was also evident, but there were already distinct retrogressive changes in addition, doubtless owing to the greater duration of the disease. In ten cadavers of chronic pulmonary tuberculosis cases the thyroids showed both sclerotic and atrophic

changes and proliferation of the residual functioning cells. Finally, in ten cases of cancer the changes were similar to those in the tuberculosis cases, but less marked, both as to sclerosis and epithelial proliferation. All the cadavers examined were of patients between the ages of twenty-five and forty-five years. The conclusion reached was that whereas at the start of infectious processes the thyroid reacts as an antitoxic organ, the prolonged presence of toxic substances induces retrograde pathological changes.—*N. Y. Med. Journal.*

Revue de Medecine, February, 1913.

Acute Dehydration of Toxic Origin.—Marcel Labbé reports a case in which continued vomiting and diarrhea, apparently due to some toxic factor the nature of which could not be discovered, resulted in a loss of twenty-four kilogrammes in weight in a period of two weeks. Purpura, edema of the extremities, and albuminuria were simultaneously present, but there was no fever. It was estimated that thirty-five per cent. of the water previously present in the system had been lost—a degree of dehydration not attained even in cholera or by deprivation of fluids. Extreme muscular tenderness was a prominent symptom. Stress is laid on the fact that there was no tendency to coma or acidosis. This shows that, as already asserted by Chauffard, acute dehydration in diabetic coma is a secondary phenomenon, and does not in itself bring on the coma; likewise, that inanition, clearly manifest in the author's case, is not sufficient in itself to bring on acidosis.

Resorption of Ascitic Fluid in a Case Subjected to Autoserotherapy.—G. Vitry and A. Sezary present the history of an undoubted case of cirrhosis, with diminished size of the liver, splenic enlargement, prominent collateral circulation, and positive methylene blue test, in which autoserotherapy and other measures led to rapid absorption of an ascetic accumulation of six months' standing. The patient was put to bed and given three pints of milk a day. Upon administering one gramme of theobromine the elimination of urine rose slightly. A week later, subcutaneous injections of ten c.c. of ascitic fluid were started, and thereafter continued on alternate days. On the third day a free flow of urine set in, with the result that eleven

days later the ascites had disappeared and autoserotherapy was necessarily discontinued. The urine during this period showed both an absolute and a relative increase in sodium chloride—a fact apparently of considerable significance in relation to the favorable results obtained. The urinary acidity was simultaneously lessened, owing to the elimination of the alkaline ascitic fluid. The patient was subsequently given salt-free food, then placed on a careful chloride-containing diet, with the result that ascites and the symptoms due to portal congestion have not returned.

Elimination of Chlorides in Simple Polyuria.—J. Goldberg and R. Hertz point out that the rôle played by the kidneys in simple polyuria is not as yet clear. Some, including Meyer, believe the essential cause of the condition to be an inability on the part of these organs to maintain a normal degree of concentration in the urine, while others assert that this is by no means true of all cases. The authors, in studying the question, made hourly estimations of the sodium chloride concentration in three cases, two of independent, simple polyuria, and one in which the condition appeared in some way related to syphilis. Administration of sodium chloride to these patients caused an increase both in the quantity of the urine and its saline concentration, thus showing that the concentrating power of the kidneys was at least partly retained. Ten gramme doses of sodium bicarbonate were found always to lower the urinary saline concentration, both in these patients and in normal subjects; these findings agree with those of Widal, who observed a decrease in the elimination of salt, with a tendency to edema, in diabetics to whom large doses of the bicarbonate were given.

New Views Concerning Diabetes.—A. Rodriguez finds that the concentration of chlorides in the urine of diabetes is nearly always increased, and bears a close relationship to the degree of glycosuria. He believes excessive ingestion of chlorides to be a factor in many cases of glycosuria, and has obtained good results in a number of patients with a diet, free of or poor in salt, but rich in carbohydrates.—*N. Y. Med. Journal.*

THE VALUE OF THE FEEBLEMINDED TO THE COMMUNITY

This letter, addressed to the editor of *The New York Medical Journal,* appears in that journal of December 21st. The subject is one, however, of keen interest to Canadian physicians, and we consider Dr. Madison Taylor's letter worthy of reproduction.

Philadelphia, December 12, 1912.

To the Editor:

In your editorial article in the issue for November 30th on the Value of the Feebleminded to the Community, you wisely advocate caution in the asexualization of the unfit. You also convey the impression that this measure is too radical to be encouraged. In short, the editorial attitude is one of wide humanitarianism—the comfortable position of *laissez faire.*

Now much is becoming actually known on the subject of the unfit, and it is possible to realize the dangers of unchecked propagation of those who can be definitely determined to be wholly unfit to propagate their kind, only by practical familiarity with conditions existing. Having, myself, had the privilege of seeing and knowing certain phases of the problem, being for many years consultant to three large institutions for the feebleminded, I beg to offer some views on asexualization.

Let it be remembered that if there comes to mind the question of interference with the privilege of sexual gratification, the operative interferences suggested permit of this.

Let it also be borne in mind that, in advocating *laissez faire,* full consideration must be given to the colossal dangers which not only threaten but are realized daily. No one can read the recent *Report of a Committee on Eugenics,* by Bleecker Van Wagenen, Esq., of New York (presented to the International Congress on Hygiene and Demography), and fail to realize precisely where we stand.

Abundant and convincing reasons are on record in favor of mercifully and scientifically checking the propagation of the unfit. Now and then asexualization is opposed. Legislation is too often thwarted. The only forceful reasons urged against this

eminently humanitarian and economic procedure, however, seem based on shallow sentimentality; on pleas for individual freedom to do as any one may choose or desire.

All religions worthy the name teach great moral truths, of which the basis is always the significance of self-restraint and other elemental principles of sociological physiology.

The simplest legal definition of a responsible man or woman is one possessing the ability to realize the significance of moral considerations. If the individual is shown by the evidence to be unable to appreciate the difference between primitive principles of right and wrong action, he or she is adjudged a lunatic and is no longer permitted freedom of choice or action. Restraint is applied in proportion to the degree and kind of the mental disability determined. In every community there are many semi-insane, irresponsible morons, or otherwise unfit individuals, who enjoy the fullest liberty of action; who may or may not have come under suspicion of mental retardation or alienation; yet are wholly defective in the one essential guiding quality of self-restraint in the genital sphere. Sex impulses at short range are despotic. From the licentious acts of such persons the whole community perpetually suffers. Not only is there peril for all from the whole realm of venereal disease, endangering the integrity of health, of legitimacy, of life itself; but the whole social fabric may, and does thereby suffer. The sane, the wholesome minded, the frugal of the community must not only thus run perpetual personal risks, but are compelled to pay for the maintenance of these incompetents—and often also to pay the penalty in their own families. Also a large number of individuals exist showing such evident defects of mind or morals, or both, that their mentality comes under suspicion even by those who are barely able to judge, or wholly unwilling to believe the plain facts. Many of these are sheltered, screened, protected by blind love, or by reason of other selfish considerations, especially by political schemers. Parental safeguards may or may not be extended over these unfortunates.

Obviously, no good whatever can come of permitting freedom of action to such beings. They are a perpetual and frightful menace to all decent citizens, especially to the young and unsuspicious of both sexes. A little alcohol wholly dethrones what remnant of mental poise they may possess. Yet the law says they

shall enjoy absolute freedom until they commit some overt act bringing the offender within the category of offenses justifying commitment.

Painful it is to contemplate a state of society which invites the blackest horrors to fall upon innocent members, and is willing to protect itself only after the blow has fallen.

There remain to mention a few degenerate human creatures, so low in the phylogenetic scale, so like unto no being made in God's image, that they are a burden to themselves, a stain upon their ancestry, a blight upon the good green earth, a perpetual horror and reproach to all who see them, cumbering the ground. They are lower than the beasts, far lower than the mangiest cur, the wretchedest abandoned cat. Animated by archaic notions of sentimentality, morbid softheartedness, overwrought, vitiated philanthropy, and blind to teratological truths, there are those who insist that these derelicts shall be permitted to come freely in contact with those of the opposite sex, even encouraged to marry and beget children worse than they.

It has been demonstrated beyond dispute that: 1. Many of these unfortunate beings are capable of at least a small measure of improvement, *especially by asexualization;* 2, wheresoever they come in contact with those of the opposite sex they have no power of controlling the sex impulse; 3, the offspring of such are almost invariably as bad as, or worse than themselves.

In the light of these facts can we assume the responsibility of denying these degenerates the *privileges* of asexualization? It has been shown that glimmerings of a better self frequently impel individuals, imbecile sexual perverts and criminal insane, *to recognize the beneficence of this simple procedure and beg it for themselves.*

Finally, a legislator, a governor, an editor, or a misguided humanitarian, who would block the way to shutting the door on the flood of putrefying humanity which now flows unchecked into the clean breast of every community, is taking a grave responsibility upon his shoulders. He must answer for his acts, not only to his soft-hearted constituents or readers, but to the beneficent and wise God before whom he must ultimately appear.

J. Madison Taylor, M.D.

STERILIZATION AND SOCIAL THERAPEUTICS

At the meeting of the Chicago Medical Society, held December 9, 1911, Dr. G. Frank Lydston read a paper on the subject named in the title. Unfortunately, he had yielded the first place on the programme to another speaker, who occupied far more time than had been his intention, so that Dr. Lydston's paper could not be read in whole, while the discussion necessarily was greatly curtailed. It is to be regretted that this was so, for Dr. Lydston has, for many years, been a deep and careful student of this aspect of social economics, and before now has advanced opinions that are well worth pondering over, and the acceptation of which would lead the difficult problem of the social evil at least nearer to a solution.

The investigations extending over several decades have profoundly influenced our ideas as to the rôle played by heredity, and it has been shown conclusively that physical diseases are not transmitted as such, although the predisposition, in the form of a want of resistance, a deficiency in organic forces, or other abnormal characteristics, may be inherited.

Unfortunately, the same does not hold true in heredity of mental characteristics, mental taints, and mental traits. It can not be denied that nervous and mental stigmata—such as epilepsy, for instance—descend to the offspring all too frequently; whether by direct hereditary transmission or in some roundabout way does not concern us at present. Nor can it be denied that vicious tendencies, like alcoholism, criminality and other mental aberrations, are far more likely to crop out and reappear in the offspring of parents afflicted by them than could be explained by the influence of environment solely. In the case of the feeble-minded—at least in those who themselves are charges of the state, and are, through their mental poverty, incapable of earning their own living—the procreation of mentally healthy children is likewise practically precluded.

These facts present a very real and serious problem which it is incumbent upon us to solve, or for which we, as physicians, should at least offer a solution.

As is well known, the State of Indiana was the pioneer in

attempting such a solution by legislation, and enabled those entrusted with the care of criminals, feeble-minded and otherwise unfit persons to make the transmission of their unfavorable characteristics impossible by preventing the procreation of subsequent generations of undesirables. It has been shown that in some cases the slight operation required to this end is not only devoid of danger to the individual, but that it also frequently is followed by an improvement in the character of the subject treated, and that, therefore, not only is the state saved from future generations of unfit and undesirables, but that the present generation is, at least in part, improved in quality, so that the state is a gainer thereby.

The question of interfering with personal liberty, which has been raised as the foremost argument against the sterilization of the unfit, can hardly be legitimately raised, because the state justly interferes with the personal liberty of the criminal by keeping him behind closed doors; it interferes with the personal liberty of the feeble-minded by committing him to institutions and asylums where he is kept from harm and from the possibility of doing harm.

If all criminals and all unfit could be kept under supervision in this manner, and if they could be kept isolated and prevented from procreating their kind, it would not become necessary to sterilize them; but as this is impossible, the remedy adopted by the Legislature of Indiana presents an easy and harmless means of gaining the desired end.

Physicians should encourage this movement—which is at the present time gaining ground in many other states—toward adopting similar legislation, and should demonstrate to their clients, especially to the ultra-conservative farmer, who forms the backbone of the country, and whose influence in the legislatures is always great, that it would be a move conducive to ultimate economy and saving in many ways if the example of Indiana were followed

It must not be overlooked that sterilizing an individual by means of vasectomy or by resection of the fallopian tubes is not to be confounded with castration, and does not preclude the possibility of marriage, although it does prevent the procreation of offspring. Castration should be carried out only in cases of

crimes of a sexual character, such as rape, and the present writer thinks that subjects deserving such a terrible punishment should anyway be kept under lock and key for the rest of their lives, because they are a menace to society. Sterilization is a purely prophylactic measure, and not to be considered as punitive in any way.—*Am. Jour. of Clin. Med.*

CRILE'S ANOCI-ASSOCIATION

G. W. Crile, of Cleveland, in *Keen's Surgery,* Vol. VI., p. 158, which has just been issued, gives this technic for his anoci-association: "The patient is anesthetized as usual, but the entire line of incisions is carefully blocked with novocaine, including the peritoneum. If, then, at the end of the operation, and before the peritoneum is closed, there is applied around the entire line of stitches a complete anesthetic block that will last a number of days, such as 50 per cent. alcohol, or quinine and urea hydrochlorate, and if, in stitching the peritoneum, every stitch is placed within this blocked zone, then the afferent impulses caused by stitch irritation are blocked, and hence cannot excite this protective mechanism of intestinal inhibition."

"On trial of this method, it was found that such blocking does minimize or even prevent post-operative gas pains in all sorts of abdominal operations. The principle here enunciated has been more or less tested in a series of over 2,000 by myself. In the last 1,000 the death rate has fallen to 1.8 per cent."

Correspondence

The Editor cannot hold himself responsible for any views expressed in this Department.

A PIECE OF IMPERTINENCE

Dear Mr. Editor:

If you think it worth while to reprint it, I enclose copies of a circular recently sent to me, and probably to many others of the profession. It constitutes a shining example of impertinence, and shows peculiar infatuation and self-satisfaction. It demonstrates conclusively how far the irregular, who swarms now in Ontario unchecked by the Council or the Government, is from appreciating the point of view of the trained medical man, and how completely innocent he is of any regard for the public interest. These people look on the public as a source of wealth to be exploited, and, as the first duty of the profession to the public is to protect it from such vampires and impostors, it seems to me to be in the public interest that we should condemn the scheme *in toto*.

Yours faithfully,

GALEN JUNIOR.

March 27.

DOMINION SCHOOL OF NURSING AND MASSAGE, LIMITED.

DR. RACHEL SMYTHE,
Superintendent.

Telephone College 8549.

Toronto, Ont.

Dear Sir:—

We are enclosing you herewith a memorandum respecting our Institution, with which you are doubtless already acquainted, and would be very glad if you would kindly give it your favorable consideration.

The school started over two years ago in a very modest way, but by its excellence of system and method of training it has

grown rapidly and successfully to its present stage. It is fully equipped to instruct and graduate the increasing number of students who are recognizing its worth and applying daily for admission.

Further, many prominent members of the Medical Profession have become interested already, and are stockholders.

Our object now, as you will notice from the circular, is to establish a School of Osteopathy. There is a splendid opening in this field, and we know that that branch will make a very large profit from commencement.

We would like you to become interested in the School from a business standpoint by subscribing for some of our Treasury shares. The price is par of $25.00, and will be issued in any number of lots you may desire. We are only, however, issuing 400 shares ($10,000), which will be ample to enable us to expand as we desire, and put us in a position to declare a nice dividend. There are no debts, and we are doing a paying business.

Will you please fill out application for the number of shares you feel you could take and forward to us as quickly as possible.

Yours very truly,

RACHEL SMYTHE, Superintendent.

P. S.—References can be given from the Profession.

LOCAL ANESTHESIA

T. Turner Thomas, of the University of Pennsylvania, in discussing "Local Anesthesia for Operations in the Trigeminus Region" (Keen's *Surgery,* Vol. VI., p. 416), says: "The anesthetization of large nerve trunks by perineural injection of cocaine solution was only possible, or at least practicable, on parts of the body on which the Esmarch constriction has made the method applicable to other parts of the body. The substitution of novocaine for cocaine permits the employment, without danger, of a much larger quantity of the anesthetic in the neighborhood of a nerve trunk, or to interrupt the conduction of a nerve for a much longer time."

News of the Month

THE GLASGOW LISTER WARD AND MUSEUM

As a memorial to the late Lord Lister, and as a means of perpetuating his memory in a way that it is hoped will prove both interesting and instructive to every member of the medical profession for all time to come, one of the wards in the Royal Infirmary, Glasgow, in which he worked out and first put into practice the principles of Antiseptic Surgery, is to be reserved and utilized in the following way: One part of the ward is to be refurnished as it was in his time with such objects as it may be possible to acquire; while the other part is to be made into a Museum for the exhibition of anything associated with the life and work of the great master.

It is, therefore, asked that any who may have letters, pamphlets, books, or other objects of direct personal association with Lister and his work will either present or loan them to the Museum.

Professor John H. Teacher, M.D., Hon. Curator of the Museum, will be pleased to receive any objects addressed to him at the Royal Infirmary, Glasgow, Scotland.

The names of all donors or senders of objects are to be affixed to the exhibits.

PERSONALS

Dr. J. J. Cassidy has sold his property, Nos. 43 and 45 Bloor Street East, and has purchased No. 6 Spadina Road, whither he will move early in May.

We were pleased to see that the city of Toronto, through the Council, on April 7th, presented our esteemed friend, Dr. A. H. Wright, with an address on the occasion of his retirement from

the medical faculty of the University of Toronto. A compliment—but richly deserved.

Dr. M. K. Wilson, son of Dr. W. J. Wilson, will return this month from Great Britain, where he has been for nearly two years. After completing his duties as Senior House Surgeon at Golden Square Hospital, London, Dr. Wilson spent a few weeks in Edinburgh, taking some special work on the nose. Ere sailing for home, he took a three weeks' cruise to Mediterranean ports. Dr. Wilson expects to confine his work to the nose and throat.

URO-GENITAL SYPHILIS

Chetwood, of the New York Polyclinic Hospital, in his new work on "Urology," says: "The use of salvarsan in uro-genital syphilis has been followed by brilliant results, and no doubt the introduction of this treatment will in many instances revolutionize the methods adopted and take the place of the older remedies to a considerable degree. It has been found that syphilitic children bear the treatment very well, in spite of the earlier expectations to the contrary."

The Physician's Library

BOOK REVIEWS

"We Young Men." By HANS WEGENER, with an introduction by SYLVANUS STALL. Authorized German translation. Price, 70 cents net. Vir Publishing Company, Philadelphia, Pa.

To many a perplexed young man, educated as education goes to-day in many of our institutions of learning, but woefully ignorant of matters vital to his well-being, the author has issued a call to action which stirs latent and slumbering faculties in every ambitious young man as a bugle call. Mr. Wegener writes in the confidential, personal style of an interested friend.

Manly impulses in so many, instead of being a well-spring of joy, are a source of untold misery because of the misuse of a natural endowment which burdens the conscience, dims the eye, and weakens the will. Finally, disease saps the spring of life, revealing the awful fact that the life has been made worthless—ruined by the very power which should have added immensely to its efficiency and strength. If we believe in the ultimate triumph of the higher over the lower within us, we must feel ourselves challenged by the burning words of the author to a nobler achievement—the holding of the manly impulses in their proper place in the economy of our life and character. Even if we hold the sins of countless generations before us responsible for the degeneration of the present, we must recognize the call to win back the good that has been lost, both for ourselves and for those who are to come after us.

There is no scolding, no preaching, no exhortation in this book, with its stirring sentences. Things are called by their right names. Natural things are spoken of in a natural way, and it should prove a welcome companion for the modern young man who aspires to the rewards that come only as the result of clean living.

Prisms; Their Use and Equivalents. By JAMES THORINGTON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc. 118 illustrations, of which 18 are colored. Philadelphia: P. Blakiston's Son & Co. 1913. Pp. 144.

This little volume is in part a compilation of the writer's lectures on prisms, delivered during the winter course at the Philadelphia Polyclinic. Every ophthalmologist has had his trials and sorrows with the use of prisms, and some few instances where they appear to have given relief. They all will probably subscribe to Thorington's statement that "the prescribing of prisms, as a fixed rule, for permanent use, which neutralize an insufficiency, except in vertical errors, or for old people, is often a serious mistake." M.

The Practice of Urology. A surgical treatise on genito-urinary diseases, including syphilis. By CHARLES H. CHETWOOD, M.D., LL.D., Professor or Genito-urinary Surgery New York Polyclinic; Visiting Genito-urinary Surgeon to Bellevue Hospital; Special Consulting Surgeon to J. Hood Wright Hospital, St. John's Hospital (L. I. City), Nassau Hospital, White Plains Hospital, etc. Profusely illustrated. New York: Wm. Wood & Company. 1913.

At the present time, when so many inferior works on this subject are being placed on the book market, we welcome this one. A glance through its pages will show its adaptability to both student and practitioner. Its material is placed before the reader in a clear-cut manner, and the subject of Urology dealt with from its many viewpoints.

The illustrations are in keeping with a book of this standard, and more especially are the colored plates dealing with the pathology of the kidney.

Treatment of the various conditions connected with urology is gone into at length, yet at the same time one is here given a definite statement to work on, and less of the tiring alternatives that are so often met in a book the size of this one. The last few pages are devoted to the administration of old and new salvarsan, a fitting summary to a book that is quite up to date in its material and well supplied with references for each statement.

A. K. H.

School Feeding. By Louise Stevens Bryant. Philadelphia and London: The J. B. Lippincott Co.

This volume is so thorough and so comprehensive, as well as so timely, that we feel a debt of gratitude to the author and the publishers. Here is what one wants to know about this subject, its history and practice in the United States and in other countries. We may read the menus worked out at Bradford by Dr. Crowley, and the calculations as to the exact cost in New York, and the plan of administration in Germany, etc. The care and accuracy with which the subject is presented, and the mass of information, make it valuable for reference as well as for present reading. Mrs. Bryant is sincerely to be congratulated on producing such an excellent and interesting book.

The Treatment, Prevention and Cure of Tuberculosis and Lupus with Allyl Sulphide. By William C. Minchin, M.D. (Univ. of Dublin). London: Bailliere, Tindall & Cox, 8 Henrietta Street, Covent Garden.

This little book gives the experiences of the author of the treatment of tuberculosis by garlic in some form or other. The results are most startling, and seem too good to be true; it is very hard to understand how the treatment would be beneficial in many of the cases of this disease. D. K. S.

A Handbook of the Diseases of the Eye and Their Treatment. By Sir Henry R. Swanzy, A.M., M.D., D.Sc.; Past President of the Royal College of Surgeons in Ireland; and Louis Werner, M.B., F.R.C.S.I., Professor of Ophthalmology, University College, Dublin. 10th edition. $4.00. Philadelphia: P. Blakiston's Son & Co. 1912.

The tenth edition of this favorite text-book appears in greatly altered form. The number of pages is less, partly as a result of change in the shape of the page, partly of change in the type used. The great change is, however, in the arrangement of the chapters. Optics, abnormal refraction and accommodation, the orbital muscles and their derangements, are relegated to the end of the book, so that the normal eye, its functions and the

methods for examining them are first taken up. For the first time the book contains colored plates—fairly good ones from paintings by Mr. Werner himself. The chapter on the pupil, its physiology, and the action of myotics and mydriatics, seems to have been eliminated entirely. Other matter has been discarded, and new material introduced. Every physician who has a Swanzy swears by him. This edition cannot but add to their number. M.

Muscle Spasm and Degeneration in Intrathoracic Inflammations. Their importance as diagnostic aids and their influence in producing and altering the well established physical signs, also a consideration of their part in the causation of changes in the bony thorax, and Light Touch Palpation, the possibility and practicability of delimiting normal organs and diagnosticating diseased conditions within the chest and abdomen by very light touch. By Francis Marion Pottenger, A.M., M.D., LL.D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California. Sixteen illustrations. St. Louis: C. V. Mosby Company. 1912.

The author of this work has called attention to the influence upon the physical signs in the chest produced by the contraction of muscle and the general wasting of the tissues in such conditions as tuberculosis. The author has also discussed the value of light touch palpation in the diagnosis of the conditions of organs in the chest and abdomen.

The monograph, which is embodied in a book of 97 pages, will be found of considerable interest; attention is called to facts of great importance in connection with physical diagnosis.

A. P.

Diseases of the Skin and the Eruptive Fevers. By Jay Frank Schamberg, A.B., M.D. Fully illustrated. Philadelphia and London: W. B. Saunders Company.

For students this is probably one of the very best works that has been published in recent years. The chapter on the exanthemata is especially useful, as the author goes very closely into the diagnoses of the various eruptive fevers. The part devoted

to the diseases of the skin presents the subject in a most concise manner and is exceedingly practical.

The book is well illustrated with splendid plates.

D. K. S.

The Course of Operative Surgery. A Handbook for Practitioners and Students. By Prof. Dr. Victor Schmieden, Privatdozent of Surgery in the University of Berlin, Assistant in the Royal Surgical University Clinic. Second enlarged edition with a foreword by Prof. Dr. A. Bier. Translated and edited by Arthur Turnbull, M.B. (Glasg.), M.A., B.Sc., Demonstrator of Anatomy in the University of Glasgow, London: Bailliere, Tindall & Cox, 8 Henrietta St., Covent Garden. 1912.

This is a book of 345 pages and is primarily intended as a guide to a course of operative surgery. The book is well adapted for this purpose, and in fact we know of no other which so well fills the requirements of such a work. The descriptions of the various operations are lucidly written and the book is well illustrated. We can safely recommend it as most satisfactory in every respect.

A. P.

Skin Grafting. For Surgeons and General Practitioners. By Leonard Freeman, B.S., M.A., M.D.; Professor of Surgery in the Medical Department of the University of Colorado; Surgeon to St. Joseph's Hospital, the National Jewish Hospital, and the City Hospital, Denver, Colorado. 139 pages, 24 illustrations. St. Louis: C. V. Mosby Company. 1912. Price, $1.50.

The book commences with a brief history of plastic surgery, which the writer traces back to very ancient times. The technique of skin grafting and the various methods which have been employed are then considered. These include those recommended by Reverdin, Thiersch, Hirschberg and Wolfe. The technique of the latter method was subsequently improved by Krause, and is usually referred to as the Wolfe-Krause method. Freeman's experience indicates that Reverdin's method, which has the advantage of great simplicity, cannot always be relied upon to

give satisfactory results, and that it should therefore be reserved for cases to which other methods are inapplicable. He finds that Thiersch grafting has a wider range of usefulness than any other method, but recommends the Wolfe-Krause method in cases in which it is advisable to obtain firmer and thicker skin, as in grafting upon the palms of the hands, the soles of the feet, etc. The beneficial results of grafting in lupus, X-ray burns, and in connection with the cranium, eye and ear are referred to.

State Board Examination Questions and Answers of the United States and Canada. A practical work, giving authentic questions and authoritative answers in full that will prove helpful in passing State Board Examinations. Reprinted from the *Medical Record*. Fourth edition. New York: William Wood & Company. 1912.

This collection of questions of the various State and Provincial Medical Boards, with answers, necessarily brief—in fact, too brief to be considered sufficient to replace the information accessible in text-books—will be found useful to candidates for the examinations of the different Boards, also to teachers preparing students for the examinations, and for examiners themselves, by giving them an idea of standard and range of work in different places.

Surgical Operations with Local Anesthesia. By ARTHUR E. HERTZLER, M.D.; Surgeon to the Halstead Hospital, Halsted, Kansas, and to the Swedish Hospital, Kansas City, Mo. 205 pages; 104 illustrations. Surgery Publishing Company, 92 William Street, New York. 1912. Price, $2.00.

In the first chapter, Dr. Hertzler considers the advantages of local as compared with general anesthesia in suitable cases, more especially in trivial operations, and in emergency operations, performed under conditions in which little or no skilled assistance is available. He emphasizes the fact that local anesthesia has recently been employed by many well-known surgeons in major operations, including operations for extra-abdominal tumors, operations upon the extremities, exploratory operations for malignant disease, resection of the ribs in empyema, etc. The

general principles and technique are then considered, the various drugs employed, including cocaine, quinine, novocaine and stovain, and the remainder of the book consists of a description of the various surgical operations in which local anesthesia has been used. This last section of the volume includes a number of excellent illustrations. Altogether, this book forms a very complete résumé of the work now being done under local anesthesia, and is well worthy of a place in the library of every surgeon.

The Prognosis and Treatment of Diseases of the Heart. By R. O. Moon, M.D., (Oxon.), F.R.C.P.; Physician to the National Hospital for Diseases of the Heart; Assistant Physician to the Royal Waterloo Hospital. London: Longmans, Green & Co., 19 Paternoster Row. 1912.

This is a modest little volume of 111 pages, well written and following along lines of recent progress in the prognosis and treatment of diseases of the heart. Dealing with a subject that has been receiving so much attention from many original investigators, especially of the English school, as James Mackenzie, Lewis, etc., though the work of Huchard in France, Krehl, V. Leyden, Wenkebach and others in Germany must not be overlooked), the work in no way replaces the fuller information supplied by these authorities. It is only a brief outline of some of the more readily applied and accessible clinical teaching, and as such will be of value to the general practitioner and student, for whom it is apparently intended, and to whom we can heartily recommend it.

New Aspects of Diabetes Pathology and Treatment. By Prof. Dr. Carl von Noorden, Professor of the first Medical Clinic, Vienna. Lectures delivered at the New York Post-Graduate Medical School, and published by their authority. Price, $1.50. New York: E. B. Treat & Company. 1912.

In this little book we have the lectures delivered by Von Noorden before the New York Post-Graduate Medical School in October, 1912. They may be taken as a supplement to the lectures he gave on Diabetes some seven years ago, and were much talked of by the profession at that time. This work deals with

many of the newer advances in metabolism, and is a decided help to the better understanding of the principles of treatment in Diabetes. We have read the work with a great deal of interest, and can strongly recommend it to the profession. M. J. W.

Flatulence and Shock. By F. G. Crookshank, M.D., (London), M.R.C.P.; Hon. Physician to the Western General Dispensary, Marylebone, N. W.; Assistant Physician, the Belgrave Hospital for Children. London: H. K. Lewis, 136 Gower Street, W.C. 1912.

These lectures are of great interest, and will repay a careful reading. In the lecture on Flatulence, the author gives many reasons why all the gas (in some cases at least) is not of fermentive or bacterial origin, and instances cases where the formation has been too rapid for such an explanation. He thinks, in these cases, it comes directly from the blood.

In the lecture on Shock, a notable point is the lateness after the accident at which the person may die from shock.

M. J. W.

The Practical Medicine Series, comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern Medical School. Vol. VI. General Medicine, edited by Frank Billings, M.S., M.D., head of the Medical Department and Dean of the Faculty of the Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1912. Chicago: The Year Book Publishers, 180 N. Dearborn St.

The Practical Medicine series is now well known to the profession. It consists of ten volumes covering the year's advances in Medicine and Surgery, and is especially useful to the busy general practitioner. The present volume deals principally with the digestive tract, and infections. The articles are well selected and will prove very valuable. M. J. W.

The Essentials of Morbid Histology for the Use of Students. By ALBERT S. GRUNBAUM. Longmans, Green & Co., London and New York.

This is a short book of about 200 pages. Included in these pages are some 161 illustrations, a large number of which are colored. It is not overburdened with text, but at the same time it has sufficient. The great feature of this work, and the one which makes it invaluable to the student, is that there are a large number of most excellent illustrations which have concise and definite descriptions attached. Heretofore it has been most difficult for the student to obtain a text-book which gives the histological pictures of the conditions he is required to study in his final years, and for this purpose The Essentials of Morbid Histology is most admirable. I have already seen it in the hands of students who professed themselves as delighted with it. D. E. R.

Surgery and Diseases of the Mouth and Jaws. By VILRAY PAPIN BLAIR, A.M., M.D., Professor of Oral Surgery in the Washington Dental School, and Associate in Surgery in the Washington University Medical School. St. Louis, Mo.: C. V. Mosby Co.

Dr. V. P. Blair, of St. Louis, is the author of a very complete surgical treatise on Diseases of the Mouth and Jaws. Although the surgical literature on such a subject is fairly voluminous already, yet after perusal one feels that there is a very great need of just such a work as this. Combining as it does the diseases of the mouth and jaws from a dental as well as a surgical standpoint, it is of the greatest value, not only to surgeons, but also to dentists. A great many conditions are treated which are not commonly found in surgical text-books, and it has been a matter of a great deal of interest to the reviewer to have the opportunity of getting the viewpoint of the dentist, as well as the surgeon, in these conditions.

The book covers very thoroughly the infections and new growths of the mouth and throat, together with the injuries in all of these structures, such as fracture of the upper and lower jaw, hemorrhage, shock, and so forth.

The subject of congenital facial defects, such as cleft palate and hare-lip, is covered in a very thorough and efficient way. The malignant diseases of the floor of the mouth and tongue, together with the congenital defects of the tongue, are also treated.

The illustrations are, for the most part, original, and are very illuminating. The print and paper and the general make-up of the book are of a very high type, and the publishers—the C. V. Mosby Co.—are to be congratulated upon their portion of the work. Altogether, it is a book which may be highly recommended to students, practitioners and dentists.

The Practical Medicine Series. Volume VII. Pediatrics and Orthopedic Surgery.

In this small volume the year's progress in pediatrics and orthopedics is reviewed. For the general practitioner this series provides an excellent means of keeping in touch with all the new and interesting work appearing in the principal journals of the medical world. The section on pediatrics is a plain review of the literature and appears to be very complete. The section on orthopedic surgery has, in addition, many criticisms of the works published, which do not add to the value of the publication. W. E. G.

Aids to Gynecology. By S. Jervois Aarons, M.D. (Edin.), M.R.C.P. (Lond.); Gynecologist to St. Anthony's Hospital; formerly Registrar and Pathologist to the Hospital for Women, Soho Square; Gynecological Tutor, extra-mural School of Medicine, Edinburgh. Fifth edition; twelfth thousand. London: Balliére, Tindall & Cox, 8 Henrietta St., Covent Garden. 1913. Price, cloth 2s. 6d.; paper, 2s.

In this work of 124 pages, we have, in a very condensed form, the essentials of symptomatology, diagnosis and treatment of gynecology.

It is quite up to date, may be carried easily in the pocket, and will be found very useful to the student for a rapid review, or to the busy practitioner who wants to look up some point in gynecology in a hurry or while on his rounds. M. J. W.

LISTERINE

Listerine is an efficient, non-toxic antiseptic of accurately determined and uniform antiseptic power, prepared in a form convenient for immediate use.

Composed of volatile and non-volatile substances, Listerine is a balsamic antiseptic, refreshing in its application, lasting in its effect.

It is a saturated solution of boric acid, reinforced by the antiseptic properties of ozoniferous oils.

After the volatile constituents have evaporated, a film of boric acid remains evenly distributed upon the surfaces to which Listerine has been applied.

There is no possibility of poisonous effect through the absorption of Listerine.

Listerine is unirritating, even when applied to the most delicate tissues ; in its full strength it does not coagulate serous albumen.

For those purposes wherein a poisonous or corrosive disinfectant can not be safely employed, Listerine is the most acceptable antiseptic for a physician's prescription.

Listerine is particularly useful in the treatment of abnormal conditions of the mucosa, and admirably suited for a wash, gargle or douche in catarrhal conditions of the nose and throat.

In proper dilution Listerine may be freely and continuously used without prejudicial effect, either by injection or spray, in all the natural cavities of the body.

Administered internally, Listerine is promptly effective in arresting the excessive fermentation of the contents of the stomach.

In the treatment of summer complaints of infants and children, Listerine is extensively prescribed in doses of 10 drops to a teaspoonful.

In febrile conditions, nothing is comparable to Listerine as a mouth wash ; two or three drachms to four ounces of water.

"The Inhibitory Action of Listerine," 128 pages descriptive of the antiseptic, may be had upon application to the manufacturers,

LAMBERT PHARMACAL COMPANY,

Church and Gerrard Streets Toronto, Ontario

NASO-PHARYNGEAL CATARRH

BY J. G. HUTCHINSON, M.D.

THE treatment of naso-pharyngeal catarrh consists in local applications and in remedies that are to correct systemic states that are friendly to the development and continuance of the disease. An appropriate remedy must be one which is antiphlogistic, antiseptic and soothing. In fulfilling this demand my constant reliance for a number of years has been Glyco-Thymoline. I employ it as a spray and douche. My favorite prescription is Glyco-Thymoline one ounce and distilled water two ounces. I have the patient douche the nose and spray the pharynx thoroughly with this solution every three hours. In some cases which do not get on rapidly I give the Glyco-Thymoline solution fifty per cent. strong, though the first prescription is usually the proper strength and will bring about prompt relief if the patient earnestly co-operates with us in an effort to get well. I often do not employ any constitutional remedies because the condition is often purely local and nothing beyond topical applications are called for or are necessary. Still, when there is anemia, emaciation, chronic bronchitis or any other systemic disease or condition present, it is our duty to direct our treatment to its correction as well as to keep up local treatment until there is no evidence of morbid condition.

Mrs. T., age 27, came to me for treatment of naso-pharyngeal catarrh. She had all the usual symptoms and declared that she was growing worse steadily. Her voice was changed and she constantly spit up muco-pus, and there was considerable nasal discharge. I put this patient on a solution composed of one ounce of Glyco-Thymoline and two ounces of distilled water. She douched her nose and sprayed her throat with this solution every three hours. I put her on a preparation of iron, as she had a mild degree of anemia. On this treatment, which my patient persisted in for two months, there was a steady progress toward recovery, which was complete by the end of the third month. This patient conformed to my instructions regarding hygienic measures.

Mr. A. J., a traveling salesman, came to me for treatment of naso-pharyngeal catarrh. He had grown steadily worse since the cold weather began, and this disease he said was a constant source of annoyance to him. I thought his degree of emaciation and anemia called for cod liver oil, and I accordingly gave him a good preparation of it. He was given Glyco-Thymoline in the strength used for the former patient. This relieved the dryness and pain in his throat and nose in a day or so, and he began to improve in every way. I was able to discharge this patient cured in six weeks after commencing with him.

Miss S. had naso-pharyngeal catarrh which was very aggravating to her, and which, as is the case with most of these patients, was gradully growing worse. She was given no internal treatment, as there was, in my estimation, no demand for any. On local treatment Glyco-Thymoline in the strength of one to three of distilled water brought about a complete cure in about eight weeks.—*Therapeutic Record.*

BALANCED NUTRITION

More than ever—the modern, progressive physician has come to appreciate the value of dietetic supervision as an essential of therapeutic success.

The busy doctor may not go into all the details concerning what and what not, his patients shall eat and drink; but he must be assured of the fact that **proper balance** between protein, carbohydrates, fat and salts, is being maintained.

Grape-Nuts

and good cream afford a ration at once practically perfect in "balance" (about 1 to 15, protein to carbohydrates), and also easily, promptly absorbed by the weakest digestive organs.

Grape-Nuts is made of wheat and barley, a small amount of yeast, pure artesian water, and a "pinch" of salt.

As far as modern scientific means and methods make it possible, all the rich food elements of these important cereals, including the "vital phosphates," are retained in the making of this well-known and most appetizing food.

The **Clinical Record**, for Physician's bedside use, together with samples of **Instant Postum, Grape Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any Physician who has not yet received them.

CANADIAN POSTUM CEREAL CO., LTD., WINDSOR, ONT.

NEW BIOLOGICAL LABORATORY

A HANDSOME building has been added to the group of biological laboratories of H. K. Mulford Company, at Glenolden, Pa.

The building is constructed entirely from basement to roof of hollow tile and concrete, making it a fireproof structure throughout.

It is divided into departments, each department being a unit, and complete in itself. The east end of the building is devoted to the handling of serum and globulin products. On the first floor, bleedings are received from the bleeding room, serum or plasma is removed from the clot, or from the corpuscles, as the case may be, and the product stored immediately in cold-storage rooms belonging to this group.

When the serum or globulin has been tested and is ready to be finished, it is delivered to the group of antitoxin and serum-filling rooms. The bulk stock is kept in cold-storage rooms connected with this group. Immediately adjoining the twenty filling rooms is the labeling and packing-room for serum and globulin products. This group also has its own cold-storage rooms. Elevators at each end of the building convey the completed packages to the shipping-rooms. After inspection and checking off against a duplicate set of records shipments are made.

Each of the twenty filling and serum rooms is supplied with washed and filtered air. The special apparatus used for this purpose is guaranteed to remove 98 per cent. of suspended matter from the air supplied to these rooms. Not only is the air filtered, but its humidity and temperature are controlled, thus giving the employes the benefit of the best possible working conditions.

On each floor glass partitions between the halls and rooms permit the demonstration of the work to visitors without their entering the rooms themselves.

The laboratory floors are of asbestolith. The advantage of this material is that there are no seams or cracks, and it is impervious to fluids. It partakes more of the nature of wood than of cement, and because of a cushiony layer beneath the surface crust, is more acceptable to employes than cement floors.

On the lower floor are the stock-rooms. The sterilizing rooms are in a separate building, well supplied with ventilating skylights.

On the third floor are found the lecture-room, library and museum.

The entire plant is arranged and managed under the unit system. A separate building or group of buildings, or in some cases, portions of larger buildings, are devoted to the preparation, standardization, packing and shipping of each product. Each unit is in charge of scientific experts in their particular branch of bacteriology. Cold-storage rooms supplied with cold air from a central refrigeration plant, form part of each individual unit arrangement. This makes it possible to keep on hand a large stock of biologicals without danger of deterioration, so that the Company is prepared at all times to supply these products and to cope with the enormous demands often created by epidemics of the various infectious diseases.

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Always a Little Better

16 in. Radiographic Coil Outfit

X-Ray Coils
X-Ray Accessories
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Write for Complete Catalogue Mentioning Appliances you are Interested in

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MESSRS. MAY & BAKER, LIMITED, LONDON, ENGLAND

This is one of the oldest and best-known manufacturing houses in Britain. They have obtained some of the highest awards in open competition at all important international exhibitions during the past sixty years, including London, Paris, Adelaide (Australia), St. Louis, Mo., and Melbourne (Australia).

Their principal products are Bismuth Salts, Mercury Salts (including their famous Calomel), Corrosive Sublimate, etc., Refined Camphor, Lithia Salts, Antimony Salts, Alkaloids, Essential Oils, etc.

They were among the first makers on a large scale of Hydrogen Peroxide, and their product of this is still one of the finest on the market.

In heavy chemicals they manufacture a number of articles, such as Lead Arsenate in paste and powder, now used so extensively for spraying fruit trees.

The medical men of Canada should know that May & Baker produce a full line of all modern products under their correct chemical names. For instance, they sell Acid Acetylsalicylic at its fair market value, but identically the same product is sold at prices having no relationship to its market value under other names.

Their products are all labeled by their correct names, as given in the *Pharmacopeia* or the *Codex*, and are sent out at reasonable market prices. Further, to enable buyers to get the right goods at fair prices, they publish in their price-list a list of correct names and synonyms, which alone makes it worthy of a place on the physician's desk.

Messrs. May & Baker were established by John May in 1834, and it was in 1839 that the firm became known under the title of May & Baker. They were incorporated as a limited company in 1890. Their works and offices at Battersea comprise in all five acres, the site being interesting, as Garden Wharf was formerly a portion of Lord Bolingbroke's garden.

The attention of the readers of The Canadian Journal of Medicine and Surgery is directed to the firm's advertisement appearing on page lxv of this issue.

BOVRIL: ITS BODY-BUILDING POWER

It is the little things that count in real nutrition, as microbes count in real pathology. Small quantities of an iodine compound synthesized in the thyroid, or of another unique product from the adrenal, another from the pituitary, another from the testis or ovary, make all the difference between intelligence or idiocy; normal blood pressure or vascular paresis, etc. The essentials of nutrition are, therefore, clearly dependent upon minutiæ, and there is probably some analogy between the action of the secretion of special glands and the action of Bovril. Physiologists have suggested in this way an explanation of the body-building power of Bovril, demonstrated by Professor Thompson at the Dublin School of Physiology, to be twenty times that of the quantity of Bovril consumed.

IMPORTANT!

Physicians using Antitoxins, Bacterins and Curative Serums should realize that these products differ widely in their therapeutic value. This variation accounts for many of the failures to secure results from bacterin and serum therapy.

The proper preparation of antitoxins, bacterins, and curative serums requires exceptional technical skill and expert knowledge, together with unlimited facilities for scientific research.

The H. K. Mulford Company were the first to produce antitoxins, bacterins and curative serums in the United States and are to-day the largest producers of biological products in the world.

Our large staff of scientists and experts and extensive connections with hospitals and other institutions enable us not only to keep in constant touch with the progress of bacteriological science but also to obtain the various strains of pathogenic microorganisms so absolutely necessary to the production of effective and polyvalent serums and bacterins.

For dependable results specify Mulford Antitoxins, Polyvalent Serums and Bacterins

H. K. Mulford Co., Chemists

Philadelphia

New York St. Louis Boston Minneapolis San Francisco
Chicago Atlanta New Orleans Kansas City Seattle Toronto

AN IDEAL RESORT FOR BOTH INVALID AND CONVALESCENT

Galen Hall, Atlantic City, aims to be inviting, not only to invalids and convalescents, but also to those who need the quiet and relaxation so conducive to health and impossible to find ordinarily in a hotel. To this end a strong point has been made of keeping this house in the very front rank of hotels, and no suggestion of invalidism is permitted to become obtrusively prominent.

The efforts of the management to have a well-appointed, quiet, home-like hotel have been rewarded by a patronage not anywhere surpassed for its high character. Clergymen, college professors, statesmen, and business men here find and appreciate the opportunities afforded for recuperation.

The bedrooms are large and airy, many with private baths. All baths are provided with sea-water as well as fresh. The luxury of a sea-water bath in one's own room or in the same house is a great convenience to an invalid.

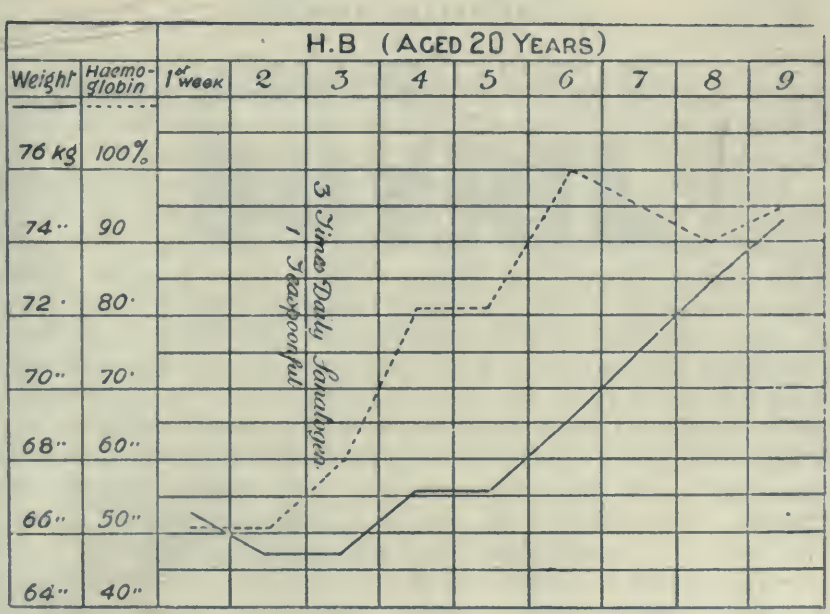
On three of the sleeping floors is a cozy sun parlor, and on the top of the building is a glass-enclosed, steam-heated solarium, with an area of 2,240 square feet, surrounded by a covered porch and open walks. Into this upper sun-parlor the elevator runs, and guests can be taken in rolling-chair or cot, if need be, directly to a spot where the eye never wearies of the grand beauty of the ever-tumbling ocean.

In winter, the well-heated, sunny room and the sun bath in a sheltered spot outside give the invalid a new lease of life, and the tired man of business drops his cares and realizes that—*"The salt breath of the sea brings health."*

The Medical Department, besides employing the usual remedies prescribed by physicians, has the aid of thoroughly equipped rooms for the scientific administration of all forms of hydriatic and electric treatments.

RHINOPLASTY AND BONE TRANSPLANTATION

William Wesley Carter, New York (*Journal A. M. A.*, March 8), reports a case in which the entire nose was restored by rhinoplasty and bone transplantation. The case was that of a woman, 32 years of age, who had developed a chancre at the age of 16. When she came to Dr. Carter the nose was entirely absent, there being only a hole in the face where the nose should have been. Three inches of the ninth right rib was transplanted between the superficial and deep fascias over the biceps of the left arm. After primary union was obtained, the flap, including the bone graft, was dissected up; the upper end of the flap was sutured into proper position on the face, the lower end remaining attached to the arm, which was bound to the head. A few days later epithelial skin grafts were removed from the thigh and placed on the under surface of the flap; when union between flap and face seemed to be complete, the connection with the arm was severed; to prevent the flap from dying, the suction of a leech was resorted to, and a good blood-supply was induced. There is an opening in this nose for nasal breathing, and the appearance of the patient is greatly improved. She reports that she notices increasing sensation in the nose.



SANATOGEN IN SANATORIA

Extracts from an article by Dr. F. Starkloff (Belzig Sanatorium), from "Zeitschrift fur Tuberculose," 1911, No. 6.

"I have devoted my attention to that extremely well attested preparation, Sanatogen, and have obtained from it, in the Belzig Sanatorium, very good, and in some cases brilliant, results. I have ordered Sanatogen for patients who were in a state of bad nutrition, and whose weight remained at a standstill or tended to decline. In most cases a marked increase in weight followed rapidly, sometimes this increase was gradual but sustained, sometimes it took a sudden leap. I had, on the other hand, a few failures, but these were, without exception, in cases of very advanced phthisis. In general, I have observed an improvement in appetite, a return of strength and a rise in physical and psychical well-being. Especially striking was the excellent effect of Sanatogen on all kinds of neurasthenic troubles, which so often encumber those suffering from phthisis. The patients treated with Sanatogen also developed a rapid increase in the haemoglobin content of the blood.

"My investigations lead to the conclusions that Sanatogen should occupy a permanent position in our Materia Medica. I consider it proved that this preparation has acquired a very significant reputation as an adjuvant in the treatment of phthisis."

The accompanying chart illustrates one of the many cases recorded by Dr. Starkloff.

INTESTINAL OBSTRUCTION

A CLINICAL study of 181 cases of intestinal obstruction, undertaken to find the clinical picture that will enable us to recognize obstruction in its early curable stage and to determine what extent of operation should be performed when the condition is complicated by toxemia and gangrene, is published by A. McGlannan, Baltimore (*Journal A. M. A.*, March 8). The reports include twenty-seven varieties of obstruction, exclusive of strangulated hernia, taken from the records of the Johns Hopkins and St. Agnes' hospitals, Baltimore. The patients were operated on by fifteen surgeons during a period of twenty years. The early characteristic symptoms are pain, constipation, diarrhea, and vomiting. The association of pain and constipation at the onset occurred in 30 per cent. of the cases, though vomiting may be an initial symptom. The secondary symptoms are due to the efforts of the intestine to force its contents beyond the point of closure and the effect of these efforts on the size and shape of the bowel and the effects on the blood-vessels involved in the obstruction. The analysis of the cases is very detailed, and the article does not lend itself well to abstracting. In the third or last stage we have toxemia, gangrene, peritonitis, and alterations of kidney function. Thirty-four patients were treated in the first stage, twelve by enemas and purgatives and thirty-two by operation—resection, simple enterostomy, enterostomy with short-circuiting, division of bands, reduction of hernia and intersussception and volvulus. All recovered. Sixty-five persons were operated on in the second stage. Ten died from the operation and eleven from a second operation or some complication occurring more than a week afterward. In both first and second stages, therefore, operative relief of the obstruction seems the best treatment. Eighty-two patients were operated on in the third stage, with fifty-two deaths. Five of those who survived the operation died as a result of complications. In the third stage, McGlannan concludes, enterostomy should be done, either alone or in connection with other measures. It is necessary when toxemia symptoms appear to remove the toxic accumulations above the obstruction. Whether we shall do more depends on the general or special condition of the patient.

RHINOPLASTY

C. A. MCWILLIAMS, New York (*Journal A. M. A.*, March 8), after mentioning the different methods of surgical treatment of nasal defects and deformities, reports and illustrates a case in which the left ring-finger was used to restore the shape of a nose, with success. The patient's appearance is vastly improved though he is not yet exactly handsome, and the small opening into the nasal cavity is not sufficient for respiration. The sense of smell is also largely gone. Considering the amount of the deformity, the nose being practically gone, and requiring reproduction of the soft as well as the bony parts, the results seem good.

LABORATORY TESTS OF

BOVRIL

The stringent experiments made at the School of Physiology, Dublin, proved:

1—That Bovril possesses remarkable feeding power;

2—That it enables the system to extract more nutriment from ordinary diet than without its use;

3—That these two qualities give Bovril a body-building power of from 10 to 20 times the amount of Bovril consumed.

MELUBRIN

Antirheumatic

THIS succedaneum for the salicylates is a non toxic specific in articular rheumatism and allied conditions.

Ample clinical demonstrations have proved its remarkable efficiency in the treatment of articular rheumatism, lumbago, sciatica, arthritis, intercostal neuralgia, and the different forms of rheumatic polyarthritis.

It is also a powerful febrifuge.

Samples and literature will be sent those who mention this journal by the

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STOCKS

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Suitable for Trustee Investment always on hand

CORRESPONDENCE SOLICITED

LIKE TRAGEDIES AT SEA

"Inert digitalis can be compared to a life preserver that will not float. The tragedies caused by the one in disasters at sea have been duplicated by the other in many a household."

So said a practitioner of wide repute who appreciated the situation as few really do.

We shall never know how many lives have been lost because of the failure of digitalis preparations to act, at the critical moment. The fluids dispensed to-day are variable in composition and uncertain in action—notoriously so. Two investigators found a wide variation in the strength of these preparations, stating that a difference of as much as 400 per cent. may be expected, at times, in different specimens of the drug.

"Several preparations, purchased at retail drug stores, have been examined at this laboratory; while some were more active than the pharmacopeial preparations, others were much less potent; some had no digitalis action on the heart; and one which had deteriorated badly was directly depressant to it, a result which, to say the least, would be disastrous to anyone suffering from heart disease."

Even if they are right to begin with, fluids deteriorate rapidly. Recently, eight fluid extracts from eight different firms were assayed after a lapse of 22 months; one showed 33.3 per cent. deterioration and several 16 per cent.

It is plain from this that doctors cannot be too careful in the selection of their preparation. Personally, when we have occasion to use digitalis or to recommend it, we select Digipoten—which is a trituration, in milk sugar, of the several active glucosides of the drug. It is active, that we know, and it remains active. It is supplied by The Abbott Alkaloidal Company both in tablet and powder form. Being soluble, it may be given in solution when desired.

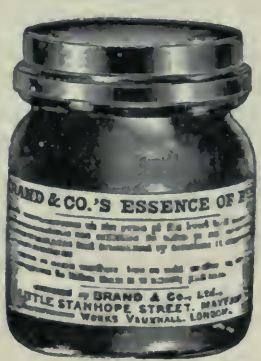
AN IDEAL FOOD FOR THE INVALID OR CONVALESCENT

The "Allenburys" Liquid Beef contains the soluble albuminoids, enzymes, extractives and salts of prime lean beef in a natural, unaltered and easily assimilable form; it is greatly superior in nutritive value to the strongest beef tea, and furnishes one of the best foods possible to obtain in most cases of illness or convalescence. It is specially serviceable in combating the wasting of phthisis and pneumonia—taken freely, mixed with water or milk—and in fortifying soups, gravies, etc., care being taken that the Liquid Beef is only added to such when at a temperature that can easily be borne in the mouth. As a diet in infant feeding, the "Allenburys" Liquid Beef is of great value to growing and weakly children, and it may be given to infants after the age of five or six months, to furnish that element of fresh diet so essential to the vigorous growth and well-being of the child. The Liquid Beef may be given in quantities of half to one teaspoonful daily, according to the age of the infant. It is best given in the milk or food when this is at the right temperature to be given to the child.

BRAND'S

ESSENCE OF BEEF AND OF CHICKEN

For Exhaustion and Weak Digestion



The Best Restoratives After Loss of Blood From Any Cause

IN GLASS AND TINS

BRAND'S Essence contains no added condiments or stimulants. It is a pure meat essence in the form of a very delectable golden-coloured jelly, pleasant to take, and easy of assimilation by the most delicate digestion.
MEAT JUICE, and other Invalid Delicacies.

BRAND & CO., LIMITED, MAYFAIR, LONDON, ENGLAND
NEWTON A. HILL. 25 Front St. East. Toronto. H. HUBBARD 27 Common St., Montreal

Knorr's Consomme - Cubes -

Each cube one cup.
"Ready in a minute."

2 cubes 5 cents.

DOCTOR, in your next case of Typhoid Fever, or any condition where solid food is inadvisable, may we suggest that you prescribe

KNORR'S Julienne Soup

It is mildly stimulating and one of the most concentrated forms of liquid nourishment manufactured

Remember also Knorr's Lentel, Rice-Julienne, Tapioca, Tomato and Semolino Soups. They are ideal for use by the sick.

Canadian Agents

The Maclaren Imperial Cheese Co.
69 Front St. East :: :: Toronto

LITHIUM POISONING

A CASE of poisoning by lithium in his own person after taking a total of 125 grains in twenty-eight hours, is reported by S. A. Cleaveland, Cleveland (*Journal A. M. A.*, March 8). In the first experiment, 2 gm. were taken in a glass of water after each meal for three meals, and then, after skipping one meal, another 2 gm. dose was taken. Slight dizziness and fulness in the head was felt three or four hours after the first dose, and nothing after the second dose, which was taken in the evening. Soon after the third dose there was much blurring of the vision and dizziness, and after the fourth dose, taken at night, the dizziness became so marked that the room seemed to go around all night and sleep was impossible. "The next morning the condition approached prostration. The eye symptoms were exaggerated and the dizziness, weakness and tremors were so intense that there was staggering and it was necessary to go to bed. The eye and ear symptoms lasted about a day and a half after the last dose. The weakness and tremors persisted for five days. At no time were there any gastro-intestinal symptoms; there was no abdominal pain, diarrhea or gastric irritation, and the appetite was very good throughout the whole time." Several months later the experiment was repeated to make sure that the effects were due to lithium. Only two 3 gm. doses were needed to bring on the dizziness and blurring of the vision. The general symptoms were less marked than before, but there was some weakness for a day or two. Again there were no gastro-intestinal symptoms, which, according to the literature of lithium poisoning as quoted by Good, are characteristic. The striking cinchonism effects observed in these experiments do not appear to be noticed by previous reporters. The two or three times larger doses, however, used by Cleaveland are mentioned in this connection, and apparently as possibly accounting for these effects.

TONSILLECTOMY

T. G. ORR, New York (*Journal A. M. A.*, March 8), reports two cases of tonsillectomy which are of interest, as showing the effect of the operation on conditions not ordinarily considered as dependent on or occurring with diseased tonsils. The first case was that of a hospital nurse, who had a mild attack of diphtheria, treated with antitoxin. In spite of apparent recovery, cultures from the throat contained virulent diphtheria bacilla, as shown by inoculation experiment. The tonsils were removed by the finger enucleation method, after which the cultures became negative and so continued. The second case was of a child three years old suffering from general anasarca, calling for tapping of the peritoneal and right pleural cavity. This continued for over six months to a greater or less extent in spite of treatment and the urine was never free from albumin. Pus cocci were found in cultures from the nose and throat. Improvement showed promptly on the removal of the enlarged tonsils and adenoids, and examination three and a half months later showed a perfectly well child, with no trace of edema or albumin in the urine. The case illustrates the part that the tonsils and adenoids may play in the causation of nephritis and its effects.

"Expels without discomfort to the patient the poisonous toxins that form in the alimentary canal and is of particular value in the treatment of febrile conditions."

WYETH'S

GRANULAR **Salinates** EFFERVESCENT

Supplied in Sealed Bottles
Containing 1-4 lb. and 1 lb.

PREPARED BY

JOHN WYETH & BROTHER

INCORPORATED

Manufacturing Pharmacists :: PHILADELPHIA, PA.

HEPATIC COLIC AND GASTRIC CATARRH SUCCESSFULLY TREATED BY LAVAGE OF THE STOMACH WITH HYDROZONE

Dr. Francis H. Weismann, of New York, reports in *The St. Louis Medical and Surgical Journal* a case of gastric catarrh treated successfully by lavage of the stomach with Hydrozone. He states:

"I commenced treatment on the 5th of April, 1904, with Hydrozone 100 grammes, warm water one quart; the stomach was washed every third day in April and every second day in May, when the Hydrozone was increased to 150 c.c. (about five fluid ounces), and was kept at that amount throughout the treatment; during the month of June the stomach was washed out every day, July every fourth day, August and September once a week.

"The improvement was noticeable already at the end of April, when the quantity of bile and mucus was much lessened. In September the benefits derived from this treatment proved conclusively that it had not been used in vain. Internal treatment was by means of Glycozone, two teaspoonfuls before and after each meal, and every three weeks a good dose of oleum ricini.

"Up to date the patient has not had another attack of hepatic colic since April, 1904, while he is now enjoying good health.

"The results that I have obtained in this particular case are so gratifying that I resort now exclusively to Hydrozone and Glycozone in the treatment of all cases of stomach diseases, and I believe that with the exception of stomach and intestinal disorders resulting from the presence of a malignant growth, all other cases can be successfully treated as above outlined."—*The St. Louis Medical and Surgical Journal*, August, 1905.

WYETH'S GRANULAR EFFERVESCING SALINATES

This preparation is a concentrated combination in granular effervescing form of the popular salines, magnesium sulphate, sodium sulphate and sodium phosphate. Eeach dessertspoonful represents one hundred and twenty grains of the combined salts.

Physicians will find this preparation an improvement over the popular European bitter laxative waters. It is palatable and acceptable to patients, being entirely free from the disagreeable bitter taste characteristic of saline laxatives. It is indicated in bilious attacks, acute constipation from any cause, in the chronic condition due to torpid liver and intestinal indigestion, catarrhal jaundice and in the various inflammations of the bowels and peritoneum; also as an uric acid eliminant. Having a stimulating effect on the liver, it improves the digestion, aiding the assimilation of food; and its refrigerant, purgative properties—expelling promptly objectionable toxins from the alimentary canal—make it particularly valuable in many febrile conditions.

For acute constipation or bilious attacks, a glass dosecapful should be administered before breakfast, and repeated within two hours if necessary. For chronic constipation, torpid liver, catarrhal jaundice, a dose every morning and at bedtime until relieved.

Chemische Fabrik auf Actien (vorm. E. SCHERING)
Berlin, N. Mullerstrasse, 170-171

MEDINAL

The most effective Hypnotic, easily soluble and rapidly absorbed. May be administered by the mouth, rectum, or subcutaneously.

An excellent sedative in Coughs. Sold in powder, also in 50 centigr. tablets (tubes of 10 tablets).

VALISAN

A superior Sedative, combining the effects of Valerian and Bromine, thoroughly proven in all kinds of nervous conditions.

Valisan is very much superior to all other preparations of Valerian, as regards taste, odour and ingestion. It does not cause disagreeable eructations.

Samples and Literature gratis, on application to
THOMAS GIBBARD, Canadian Agent
30 St. Francois Xavier, Montreal

THE thought of Summer, with injuries and conditions characteristic of the season, should call to your mind the value of Antiphlogistine and its dependable service as a therapeutic agent.

ANTIPHLOGISTINE will afford prompt relief to the patient and satisfaction to the attending physician, if applied to the following cases: Insect Bites, Bee Stings, Sunburn and its frequently following Dermatitis, Strains and Small Joint Injuries from baseball and other sports, Sprained Ankles, Ecchymosed Eyes, Infected Wounds, etc.

THE DENVER CHEMICAL M'FG. CO., NEW YORK

REMEMBER
Antiphlogistine
TRADE MARK
MEANS
THERAPEUTIC EFFICIENCY

A FOOD TONIC

For a period of over twenty years, Bovinine has been known and extensively employed by medical men. Bovinine represents the highest quality in its ingredients and the highest skill in its combinations. Special preliminary processes of preparing the various constituents, as well as of compounding them, unite to produce a food and tonic of uniform strength and physiological action.

Careful investigation of the action of Bovinine shows that it acts, primarily, by stimulating the digestive and absorptive processes, and by imparting tonicity to the whole nervous system. The hepatic and the various secretory functions are increased, and a more substantial assimilation of nutriment follows as a natural sequence, and it gives to the system every element required to properly sustain it. In other words, proper balance between waste and repair is brought about. Every organ and tissue shows improvement in the functional activity of its cells, and the accumulation of vital energy is tangibly shown in an increase of resistance and a lessened susceptibility to disease and improved blood standard. Nerve force is likewise increased, and the whole nervous system shows greater resistance to the depressing influence of mental wear and tear.

ROBOLEINE

This is an Oppenheimer preparation made with the finest extract of winter malted Scotch barley, the red bone marrow from the long bones of the calf and the juice expressed from the ribs of the same animal, with a small quantity of hypophosphites of lime, soda and potash. The marrow and juice are collected daily from the London abattoirs under contract and are mixed up while they are in an absolutely fresh condition. It has been proved by critical demonstration that once the marrow is emulsified in the extract of malt the latter acts as a strong protective agent, preventing any possibility of decomposition, so that Roboleine can be sent to all parts of the world. It is declared by some authorities to be a far better nutritive tonic than cod liver oil preparations. It prompts hemoglobin genesis, and is specially useful in all cases of emaciation, pernicious anemia, leucocythemia; backward children rapidly improve after taking regular doses of the preparation, and numerous letters have been received from members of the medical profession, their wives (where Roboleine has been used in their own families), nurses and national health lecturers.

Roboleine is now being used in many of the hospitals in Great Britain, and the manufacturers feel certain that any physician who has not already prescribed it and will send for a trial sample to their agent, Mr. Mervyn E. Vanzant, 732 Yonge Street Toronto, who keeps a stock of the preparation, and supplies same either direct or through the wholesale and retail pharmacies in the Dominion, will be thoroughly satisfied with the results obtained. obtained.

National Fluid Extracts

THE increasing demand for this line is the best evidence of merit. Doctors would not continue to prescribe them if they did not meet the reasonable expectations of the profession.

National Fluid Extract of Ergot

National Fluid Extract of Nux Vomica

National Fluid Extract of Digitalis

although their sale has been phenomenal, are really no better than other National Fluid Extracts, it is because they are very important lines and have never failed to respond in anxious moments, that gives them the high place in the estimation of the profession. Every other line is prepared with the same attention to detail, by the same modern methods and with the same pharmaceutical skill, as the three important staples above mentioned, and the full line of National Fluid Extracts are as dependable, to the very limit of the therapeutic value of the crude drug employed.

No physician can make a mistake in specifying NATIONAL FLUID EXTRACTS. They are all made at one place, under one chemist, and are distributed by all our branches as the uniform product of our Central Laboratory situated at Montreal.

National Drug & Chemical Co. of Canada
LIMITED

LAURENTIA MILK, AN IDEAL FOOD FOR CHILDREN

Laurentia Milk having, by means of homogenization, been rendered more digestible and easy to assimilate, constitutes a choice food for infants; it is the best substitute for mother's milk that it is possible to procure anywhere.

Being perfectly sterilized, it is free from all noxious germs.

It cannot transmit either typhoid fever or measles, scarlatina or diphtheria, nor the dread white plague—tuberculosis—of all of which diseases other milks may at any time become the agents and propagators.

On account of its delicious creamy flavor, its edible qualities and its immunity from germs, it is the best food for all, great and small; for those who seek to regain health and for those who desire to preserve it.

As a food product it realizes the desideratum of sensible people—the best value for the least money. Orders for Laurentia milk are promptly filled by phoning the Laurentia Milk Co., 371 Queen St. W., Toronto.

SEVENTEENTH CENTURY MEDICINE

A. S. M. Chisholm, Bennington, Vt. (*Journal A. M. A.*, March 8), in the first instalment of an article, gives an interesting account of the medical science and theories of three hundred years ago, when the belief in alchemy and witchcraft was practically universal and the influence of the church was exerted against true scientific advances. His records go a litte further back than the seventeenth century—to the time when Sir Mathew Hale was condemning witches, and unlicensed printing was quickly suppressed.

DEAFNESS FROM SALVARSAN

A case of deafness following the injection of 0.6 gm. of salvarsan is reported by C. A. Clapp, Baltimore (*Journal A. M. A.*, March 8). About a month after the intravenous injection the patient had a severe attack of giddiness with impairment of hearing which was reduced to watch at four inches in the right ear and contact in the left. The left side of the face was slightly flat. Barany's caloric tests showed a slight functioning on the right side and none on the left. The giddiness increased under potassium iodid alone but was improved by pilocarpin epidermically and purgation. The patient was kept on the iodid all summer and in October, 1912, his hearing improved to watch 3 inches in each ear with slight response to caloric tests. Equilibrium is still disturbed but the slight facial paralysis has disappeared. Clapp does not attempt to explain this complication of salvarsan treatment but says that the fact remains that the occurrence of deafness is more frequent since the use of this drug. Three cases have occurred in Baltimore to his knowledge within the last two years.

Interesting
Therapeutic Advances

A palatable tonic food and reconstructive.

'Roboleine'

Trade Mark

Rapidly increases weight, producing firm flesh, strong bones and healthy blood.

Unequalled for fortifying weaklings—infants and adults against the effects of cold weather.

Its beneficial effect is immediate in Anæmia, Debility, Rickets and wasting diseases generally.

It is a scientific combination of Fresh Red Bone Marrow, Cream of Malt and the Hypophosphites.

Children Like It

Used in all the leading hospitals and sanatoria throughout the world.

Entirely Supersedes Cod Liver Oil.

Colloid Metals

A New System of Treatment.

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A pamphlet about British medical examinations can be obtained gratis on application to the University Examination Postal Institution, 17, Red Lion Square, Holborn, London. The institution undertakes to advise gentlemen who wish to proceed to England for the purpose of obtaining some degree or diploma, and it can, if desired, assist them with lessons by mail. For some further particulars see advertisement on page lxxxiv.

HORSE-SERUM IN HEMORRHAGE

C. G. Levison, San Francisco (*Journal A. M. A.*, March 8), reports two cases of persistent hemorrhage, one from the bladder after cauterization and the other from the exposed gall-bladder after an exploratory operation for carcinoma, both of which were relieved at once by local applications of horse-serum instead of by the usual hypodermic injection or transfusion. In each case a flask of horse-serum was poured into the open bleeding surfaces, causing prompt and permanent cessation of the hemorrhage.

ILLUMINATING-GAS POISONING

Morris Fishbein, Chicago (*Journal A. M. A.*, March 8), discusses the effect of formaldehyde on tests for carbon monoxide in the blood. This subject is interesting from a medicolegal standpoint on account of the use of formaldehyde in embalming. Preparations of blood from a body examined post-mortem after formaldehyde embalming—of normal blood, of normal blood containing formaldehyde solution, of normal blood through which illuminating gas had bubbled for fifteen minutes, or normal blood plus formaldehyde through which illuminating gas had bubbled for fifteen minutes, and of blood from bodies of unembalmed persons believed to have been poisoned by gas—were studied by spectroscope and subjected to various chemical tests. Formaldehyde was found to modify, in some way, all of these tests. It was also demonstrated that carbon monoxide remained in the blood for five days after removal from the gas, and one case is reported in which it was found seven days after. This is interesting in view of the general opinion that carbon monoxide loses its characteristics when exposed to air.

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INASMUCH as cough is the psychical as well as the physical tormentor of every person afflicted with pulmonary phthisis, and in view of the fact that if it is not repressed it unmercifully robs the patient of his vital force and deprives him of the rehabilitating influences of rest and sleep, the efforts of the physician ought to be directed towards its abatement.

The treatment being essentially a prolonged one, care must be taken to select a remedy which will afford the desired relief without begetting the drug habit, deranging the already sensitive stomach, or in any other manner adding to the patient's affliction.

Glyco-heroin (Smith) enjoys the preferment of a large proportion of the medical profession in the treatment of these cases. It immediately allays the cough, stimulates the respiration, reduces the fever, promotes the free and unlabored expectoration of the sputa, exercises an antiseptic and balsamic influence upon the breathing passages, and induces healthful and refreshing sleep.

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Glyco-heroin (Smith) is very extensively employed in institutions devoted to the treatment of pulmonary phthisis, and in many of them it is made a routine practice to administer it, exclusively, for the suppression of cough.

PROGRESS IN MEDICAL EDUCATION

The Journal A. M. A., March 8, publishes an article by Henry S. Pritchett, President of the Carnegie Foundation for the Advancement of Teaching. This article is an exposition of the constructive work done by the Carnegie Foundation and by the Council on Medical Education of the American Medical Association in raising the standard of medical education in this country. The immediate connection of the Carnegie Foundation with the subject dates from the publication of the Fourth Bulletin in June, 1910. In co-operation with the educational council of the American Medical Association and the Association of American Medical Colleges, both of which had for some years previously been effectively engaged in the work, it has sought to define the principles to which sound educational organization in medicine should conform at this time, and practically to assist in embodying these principles wherever opportunity offers. For the present these efforts are directed to the elimination of unnecessary schools, to the abrogation of all sectarian privileges, to the improvement of the student body as fast as local conditions permit, and to the replacement of proprietary establishments by adequately equipped and financed university departments, in whose conduct educational and scientific rather than professional motives are emphasized. In particular the foundation has sought to assist positive and constructive effort by frank publications on medical education which aimed to describe actual conditions, and to stimulate by a critical discussion the appreciation of things to be done and those to be avoided.

397.

The Canadian Journal of Medicine and Surgery

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Editorials

SOME NOVEL VIEWS OF THE ORIGIN OF APPENDICITIS

In an article published in *Archives des mal de le app. digestif,* November, 1912, Charles Richet, junior, a distinguished French physiologist, declares that appendicitis is included in the number of infections, the origin of which may be traced to the blood itself. Arguments of a clinical and anatomico-clinical character favor this opinion. Thus, tuberculosis of the appendix in its primary stages assumes the appearance of a local granulation, or a submucous eruption of miliary tubercles, which are not ulcerated but grouped like vesicles of herpes or cutaneous syphilides. This initial distribution of the primary lesion of tuberculosis in the appendix seems to be explained by a bacillary infection of the afferent artery of the appendix. In typhoid and paratyphoid infections, he says, we meet with facts just as demonstrative as this. In typhoid fever, if the tardy forms of appendicitis (paratyphoid appendicitis of Dieulafoy) should

rather be traced to a digestive origin, the early cases of appendico-typhoid realize a pure type of hematogenous appendicitis. With regard to paratyphoid infections, the recent case of Widal, Abrami, Brissaud and Weissenbach is quite as valuable as an experiment. After a few days of a septicemia due to a paratyphoid bacillus, which was revealed by hemoculture, a gangrenous appendicitis broke out; at the autopsy the same microbes were discovered in the appendix, while the small intestines were quite free of them. During a pneumococcemia, the hematogenous infection of the appendix explains not only a common appendicitis happening during a pneumonia, but also slighter attacks of appendicitis, which are the probable cause of the initial abdominal "pain in the side," observed in infantile pneumonia and of many attacks of peritonitis due to the pneumococcus. The relation between anginas and appendicites forms one of the oldest chapters in the history of appendicitis; it must be acknowledged, however, that those latter appendicites have been traced to the action of tonsillar exudates swallowed by the patients.

Appendicitis is likewise a frequent complication of grip, not preferably in its abdominal or gastro-intestinal forms; it seems to be a localized manifestation of the general infection (Faisans). Lastly, in Mr. Richet's opinion, the greatest number of cases of appendicitis arise from imperfectly determined septicemias, often so slight in their nature that they pass unnoticed on a superficial examination. If, in almost all such cases, you find in the appendix bacillus

coli and anaerobic bacilli, these common bacilli of the intestine have only invaded the appendix in a secondary manner, as was shown in Poynton and Paine's observation, in which the causative diplostreptococcus invaded the deeper layers of the appendix, while the bacillus coli was found on its necrosed superficial parts.

Experimental data are in complete accord with the findings of clinical medicine in this matter. Charles Richet and Saint Girons have injected into the veins of the guinea pig the streptococcus, Eborth's bacillus, the bacillus of dysentery and, with almost perfect certainty, have observed, that these same microbes were eliminated in the appendix. The elimination was precocious (after an hour or even a half hour) and was sometimes associated with a simultaneous elimination by the duodenum or colon; but, for the most part, it was exclusively localized in the appendix. The elimination was, in every case, more precocious and more constant than the biliary and renal elimination.

One can easily see the range of these experiments and their influence in forming medical opinion. Informed by them, we see that the appendix is not a mere ancestral vestige deprived of any useful function, and that, above all things, it is an organ, the chief office of which is to eliminate microbes. But, as the appendix is not the only organ to render that kind of service, Charles Richet does not go so far as to beg of surgeons to keep their hands off it. In fact, whether it is of hematogenous origin or not, appendicitis, in his opinion, does not seem to be susceptible

to any other treatment than a surgical one, on account of the frequent relapses, to which the bearer of such a disease is exposed. Besides, when an appendix has been once damaged, every new infection, to which its owner is exposed, has a tendency to become grafted on it. J. J. C.

THE CARE OF THE FEEBLE-MINDED IN ONTARIO

THE care of the feeble-minded in Ontario is dealt with, in the seventh annual report, for the year 1912, by Dr. Helen MacMurchy, Toronto. This report is a pamphlet of 52 pages, containing much pertinent information, gleaned from authoritative sources, and the case is well presented. Among the more important conclusions of the author may be noticed an opinion to the effect that "The colony type of institution, situated on two or three farms, with cottages holding from fifty to sixty inmates, school buildings, work shop, a little church, and all other necessary buildings is the most satisfactory and economical way of caring for the feeble-minded."

Judging from the character of the evidence advanced in the report, this is a logical inference, and it would seem that, dealing with present and future requirements, Ontario would act wisely in making a generous provision for inaugurating such a colony. While it may be true, that efforts to educate feeble-minded children are commendable, yet it must be a heart-breaking task for a teacher to try to evolve

light from darkness. Education presupposes normal or quasi-normal pupils, and no teachers can make feeble-minded children normal, so that, when special teachers have done their best for them, the finished products of such classes are still unable to fight the battle of life and will require persistent watching and direction all their lives. Better, indeed, that such unfortunates should be looked after in a "colony," where a happy, thrifty life may be led, rather than shrivel up in poverty and misery, adding fresh recruits to the ranks of the alcoholics and the criminals. More especially, should segregation in colonies be applied to feeble-minded girls and women, who, if allowed their freedom, may become mothers and thus add still more to the too-rapidly increasing numbers of feeble-minded children.

There seems to be good reason to believe, also, that the segregation in colonies of feeble-minded children would contribute largely to the prevention of alcoholism, because, it has been shown in statistics quoted by the author, that, of all the causes of alcoholism, mental defect is by far the most efficient.

The author recommends, that the expense of providing for mentally defective children, up to the age of twenty-one years, should be borne by the parents or guardians, wherever they are able, in whole or in part, to do so, supplemented by municipal or governmental grants in other cases. When mentally defective persons are over 21 years of age, and are certified by the proper authorities to be so mentally defective that they cannot become citizens, but must remain

dependent, or become delinquents or criminals or otherwise harmful to the community, it is recommended, that they should be transferred to the care of the Government, preferably in suitable institutions, the expenses to be borne as above. J. J. C.

MIDWIFERY SHOULD BE A BRANCH OF SURGERY

PAPERS, dealing with puerperal morbidity and mortality, deplore the considerable prevalence of puerperal fever after home-conducted labor, and variously indicate where the fault lies. Thus, the doctors may be blamed for neglecting to see that Listerian rules are carried out, or the midwife is charged with carelessness or uncleanliness. But little is said about the room in which the obstetric act is staged, and it is quite true that the less said about it the better. Yet, there is no good reason why so harsh a criticism should be merited, while, on the other hand, there are excellent reasons why the room in which the baby is born should be the cleanest room in the house. If the suffragettes were to take an active interest in bettering the environment of women in labor, they would lessen sickness and mortality in the ranks of married women; they would earn, with flying colors, the sympathy of all women; they would deserve the everlasting gratitude of all men.

We will not draw aside the curtain, so as to reveal the interior in which the average baby is born; accoucheurs know it well and the general public might

be disedified. In such a room lies a woman, threatened with the probability of surgical intervention. Now, if there is to be a surgical intervention, should not preparation be made for such an emergency? In ordinary surgical work, the medical man demands surgical circumstances and surroundings as a necessity for the performance of his duties and, without them, except under emergency, he refuses to undertake the case. Further, the public, educated as regards recognized surgery, supplies what he asks for without demur, or, if unable to do so, agrees to have the patient transferred to a home or lying-in hospital.

Medical men entering practice find that it is customary to conduct labor under faulty conditions of environment and, in the face of habits established by usage, are afraid to impose Listerian rules in midwifery, while they unwisely tolerate conditions of environment, against which their surgical teaching should rebel. It may be contended, in extenuation of the accoucheur's abandonment of Listerism, that he cannot afford to be too nice; but this argument is weak. There is no reason, why he should not exact as good conditions in the room where he does an obstetric operation, as if he were going to curette the uterus or ligature piles. The obstetrician must put the proper appraisement on the exercise of his art, if the public is to valuate it at its true standard. Even if midwives are to preside instead of doctors, they should be trained women, who will justify the medical schooling they have received, by eliminating the noxious conditions and intensifying the helpful ones,

which should surround the bed of the lying-in woman.

In an editorial, published in this journal, last March, we quoted statistics taken from the report of the Registrar-General of Ontario, for the year 1911, which showed that the number of decedents from puerperal septicemia in that year was 121, a considerable increase over 82, the number given for 1910. In 1910, the death rate for puerperal septicemia was 1.46 per 1,000 parturient women. In 1911, it rose to 2.11, per 1,000 parturient women, which is, by far, the highest death rate from puerperal septicemia, recorded in Ontario during eleven years, beginning in 1900.

In the light of these statistics, it is the duty of the medical men of Ontario to take more than a passive interest in the application of modern surgical rules to the regulation of the environment of the obstetric patient. If medical men are properly impressed with the essential requirements of surgery, as called for in the practice of midwifery, their practice will naturally reflect their opinions—or ought to. As far as the public is concerned, years of education will be required, before a social reform in the environment of women in labor will be accepted as proper and will be commonly acted on. The doctors should be the leaders in this reform. In the interest of the public whom they serve, in the interest of themselves, as members of a learned body, they should insist, that the surroundings of a parturient woman shall be similar to those demanded for one who is about to undergo a surgical operation. J. J. C.

FRIEDMANN'S DOWNFALL

THE nigger known by some of us to be hiding in the fence when this promoter visited Toronto, now sits on the top rail and can be seen of all men. An announcement like the following, given to the press last week, must end the farce, one act of which was staged in our city, and must place this man before the world in his true light.

"An arrangement has been definitely arrived at between Dr. Friedrich Franz Friedmann and Moritz Eisner of this city, providing for the preparation and use of the Friedmann vaccine in the United States. The plan which has been formulated provides for the establishment of institutes in the various States in order that fresh vaccine may at all times be available to those afflicted with tubercular diseases; that, under reasonable regulations, persons requiring treatment, but who are unable to pay for same shall be treated free of charge, and that all duly licensed physicians shall without cost to them be entitled to receive at the respective institutes proper instructions in the method of application of the Friedmann vaccine.

WILL INSTRUCT PHYSICIANS HERE.

"Dr. Friedrich Franz Friedmann will return to the United States after his visit to Canada for the purpose of instructing a number of physicians in the handling of the vaccine for treatment in the various institutes.

"No one in the United States at present, with the

exception of Dr. Friedrich Franz Friedmann and Mr. Eisner, has any of the vaccine in his possession or knows the preparation of the same, and this will be given to the Friedmann institutes to be formed. The application of the vaccine, made in accordance with the instructions given by Dr. Friedrich Franz Friedmann, will be applied by physicians who will be instructed to treat patients at the Friedmann institutes in the different States.

"This is all done on account of the nature of the articles and the nature of the treatment, *and for no other purpose.** Dr. Friedmann from the start has made it an absolute condition that the poor in every State shall be treated free of charge."

On the 2nd of May the Council of the Academy representing some four hundred of the leading physicians of Toronto, had this to say:

"While the Academy of Medicine of Toronto disapproves of the spectacular and commercial manner in which Dr. Friedmann's treatment of tuberculosis has been presented, it strongly advises both the profession and public to await results of investigation not yet complete.

"In the cases treated by him in Toronto there is nothing to show that there has been any improvement which is not secured by other methods of treatment.

"Dr. Friedmann has not received the endorsation of the medical profession in Toronto through the Academy of Medicine, the University of Toronto, the medical faculty of the University, or any representative body of the profession.

*The italics are ours.

"Dr. Friedmann was given every opportunity in the field of experimental medicine by individuals engaged in such work."

That the Journal of the American Medical Association stands for all that is best in the professional life of our confreres across the line few will care to dispute. An editorial in this journal of the 3rd of May puts clearly and forcibly certain points at issue between this gold-brick artist and every honorable member of our profession, and as it is well to view the matter from every possible standpoint, we reproduce it here:

"FRIEDMANN EVADING THE LAW.

"Dr. Friedmann's course, since he landed on our shores, has been one of constant evasion. His claims for his treatment rest solely on his own statements. He has not qualified as a physician in New York or Rhode Island. He has failed even to answer the letters of the officers of the Public Health Service. He has persistently refused to furnish any proof of the claims made for his preparation. Now comes the most startling development of all. According to newspaper reports, branch "institutes" are to be established in every state by a syndicate, formed by Dr. Friedmann and his promoters. Each "institute" will make its own serum or culture, or whatever Dr. Friedmann's remedy is. Thus, by a technicality, he will evade the federal law which, for the purpose of protecting the public against impure and dangerous serums and vaccines, places all these preparations

which are subject to interstate commerce under the control of the Public Health Service. State laws are slow of enactment and slower of enforcement. This plan will sweep aside the strong arm of the Public Health Service, which otherwise would protect the unfortunate consumptives. It will allow the promoter to make and sell to the victims of disease, at any profit he sees fit, a secret product, the value of which rests entirely on Friedmann's unsupported statements. Suppose an American physician went to Berlin with unproved claims for some new treatment of consumption. Suppose he refused to produce proof of his statements, refused to submit his remedy to other scientific men, attempted to evade the German laws, disregarded German officials and, finally, through a legal technicality, planned to bleed the German consumptive of his scanty means by selling him a preparation of unproved value and possible danger. Would the German people permit their sick to be the victims of such a scheme? Why did Friedmann come to the United States? Because we have, in Europe, the reputation of being "easy." Because this country is supposed to be the home of the get-rich-quick promoter. The American people have no respect for the man who uses legal technicalities for profit or to escape punishment. Will the American public and the American press tolerate this attempt to make our unfortunate consumptives a source of gain for a rapacious foreigner, promoting a remedy of unproved merit in violation of the spirit of our laws?" Nuf Sed.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., *must be* in our hands by the first of the month previous to publication.

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Original Contributions

SIR WILLIAM TENNANT GAIRDNER, THE IDEAL PHYSICIAN

BY JOHN FERGUSON, M.A., M.D.
Senior Physician, Toronto Western Hospital.

It falls to the lot of few men to be more richly endowed with gifts of head, heart and body than was the subject of these remarks; or to use these great gifts more nobly for the advancement of his chosen profession and the benefit of his fellow man. Tested by the severest standard, he was truly a great and noble physician, and, as the medical profession has mythically a supernatural origin, he strove to live up to the high ideal which this places upon the true sons of Aesculapius. After having added greatly to the sum total of medical knowledge and having made humanity immeasurably his debtor, he died full of years and honors at the ripe age of eighty-three, the medical profession of his own country, indeed, of the civilized world, bowing its head when his end came.

His ancestors were Ayrshire people from the district and home and haunts of the poet Burns. He was the fourth in descent from Rev. Dr. William Dalrymple, who was for sixty-eight years minister in Ayr, and who, in the early years of his ministry, baptized Scotland's immortal bard. This minister was of the moderate school and brought down upon himself the indignation of many of the clergymen of his day, and this was the reason why Burns defended him in these lines:

D'rymple mild, D'rymple mild, tho' your heart's like a child,
And your life like the new driven snaw,
Yet that winna save ye, auld Satan must have ye,
For preaching that three's ane and twa.

Dr. Dalrymple's daughter, Wilhelmina, married her cousin, William Tennant, whose daughter Susanna, married John Gairdner, a grandson of another sister of Dr. Dalrymple's, and son of Robert Gairdner, a captain in the Bengal Artillery. William Tennant Gairdner was the second son by this marriage. Through two other sisters of Dr. Dalrymple's, he was related to George Joseph Bell and Sir Charles Bell, of Edinburgh, and to the Aiken family, the intimate friends of Burns, and to some of whom the poet addressed his finest productions. The Gairdners were also related to James Erskine, who became a distinguished judge, under the title of Lord Alva; and to William Cunningham, 13th Earl of Glencairn, the father of the patron of Burns, of whom he said:

> "But I'll remember thee, Glencairn,
> And a' that thou hast done for me."

The Gairdners and Tennants were related, also, to the Maclagans, of Edinburgh, as a grand-daughter of Dr. Dalrymple married David Maclagan, a noted Edinburgh physician. Three of the sons of this marriage were Sir Douglas Maclagan, M.D.; Philip Maclagan, M.D., and William Dalrymple Maclagan, Archbishop of York. Sir Douglas Maclagan was Professor of medical jurisprudence and clinical medicine in the University of Edinburgh, and also successively President of the Royal Colleges of Surgeons and of Physicians. He was a man of remarkable personality and ability. The paternal uncle, William Gairdner, was a practitioner of medicine in London, where he acquired considerable distinction. John Gairdner, father of him whose life is now under consideration, studied medicine in Edinburgh, where he graduated in 1811, and was made a Fellow of the Royal College of Surgeons in 1813. In 1830 and 1831, he was President of the College. He wrote a history of the College, and the Medical School of Edinburgh. He sat in the Town Council as the Deacon of the Chirurgeon-Barbers. An uncle on the mother's side, James Tennant, commanded the artillery at Chillianwallah and Gujerat, and was created a K.C.B. A word or two should be devoted to James Gairdner, who was four years younger than his brother, William Tennant. He entered the

record office and became an accomplished historian, devoting his great talents to the middle and formative period of British history, on which he wrote many volumes.

William Tennant Gairdner was born in Edinburgh on 8th November, 1824. Euripides, the Greek tragedian, said that the first requisite of happiness is to be born in a great city; and Juvenal, a famous Roman writer, said that the influence of renowned names makes one either rise to greatness or sink into oblivion. In the case of our subject, there were the double factors to make him distinguished, as set forth by these ancient worthies. On the authority of his brother, James, the family life of the Gairdners in Edinburgh was peculiarly happy. William very early manifested a strong disposition to dip into the secrets of natural phenomena; and this quality of mind, inherited from and cultivated by his father, showed itself while he was quite young in the dissection and study of small animals.

After a short period at a private school, he was entered as a pupil in the Edinburgh Institution, which has given to the world many a fine scholar. In this institution he came under the tuition of Rev. John Little, who was an excellent classical scholar. Here William Gairdner made marked progress in Greek and Latin, becoming an ardent lover of these languages and the life and times of the great Greek and Roman writers. This training showed itself later in the splendid mastery it gave him of the English language. That he must have been a diligent student is well borne out by the fact that when he entered the university in 1840, when he was only sixteen, the extent of his learning was a matter of comment by the college professors.

There was a noted group of physicians and surgeons in Edinburgh when Gairdner became a medical student, in 1840. Robert Graham was one of the physicians to the Royal Infirmary, and gave lectures on clinical medicine; Robert Jameson was Professor of Zoology; Thomas Charles Hope lectured on Chemistry and Clinical Medicine; William Gregory was also one of the instructors in Chemistry; the third Munro had charge of Anatomy, and some amusing stories were told about his using his grandfather's lectures; William Pulteney Alison and Allen Thomson held the chair in Physiology; John Thomson and William Henderson had charge of Pathology; Robert Christison was Professor

of Materia Medica, and also one of those on Clinical Medicine; Thomas Traill had Medical Jurisprudence and some of the work in Clinical Medicine; in Surgery there were Sir Charles Bell, James Miller, and James Syme, and James Young Simpson was Professor of Midwifery. In addition to these, there were the following, who held appointments on the staff of the Royal Infirmary: John Rose Cormack, Alexander Halliday Douglas, Sir George Ballingall, William Fergusson, James Argyll Robertson, P. D. Handyside, Douglas Maclagan and others. The celebrated John Reid and John Hughes Bennett were Superintendents of the Infirmary. Gairdner came specially under the influence of Handyside, Graham, Syme, Alison and Christison, as he served at some period or other of his student years as clinical clerk for these men. On all of these he made an abiding impression, and they have left their testimony as to the excellent manner in which he performed his duties and prepared his studies and classwork. The influence of these teachers was of an abiding and far-reaching character. Dr. Handyside was eccentric and erratic, but brilliant; Graham was scholarly, cultured, broad-minded and thorough; Syme was conscientious, painstaking, an observer of the times, and possessed of great decision of will; Alison was regarded by his contemporaries as both great and good, while Christison was then, and is still, held in the highest esteem, as a man of marvellous originality, uncompromising honesty and incessant devotion to his patients and his students.

Noscitur a sociis was specially well manifested in Gairdner's case. If he was influenced to an unusual degree by his teachers, he must have been also influenced in no small measure by his fellow-students, for among them were the potentialities of a number of Britain's most distinguished professional men. He came in contact more or less intimately with those who graduated between the years 1841 and 1848. Among these may be named the following: George Skene Keith, the author of a Plea for a Simple Life and other books; Edward Henry Sieveking, in due time Physician to St. Mary's Hospital, Physician to Queen Victoria, and knighted; Robert James Mackenzie, who died in the Crimea as a surgeon in the army; Charles Tupper, of Canadian fame; John Struthers, who became one of the surgeons to the Royal Infirmary, and later Professor of Anatomy in the

University of Aberdeen, President of the College of Surgeons, and knighted; George Hugh Kidd, the future master of the Coombe Hospital, Dublin; George Johnson, later on one of London's noted physicians, and also raised to knighthood; Alfred Scott Donkin, who became Professor of Forensic Medicine in University of Durham; William Rutherford Sanders, later on Physician to the Royal Infirmary, and Professor of Pathology in Edinburgh University; James Warburton Begbie, in due time to be one of the most noted clinical teachers Edinburgh has ever produced; Henry Duncan Littlejohn, who, in after years, taught Medical Jurisprudence for so many years, and who took such an active part in public health advancement, and created a K.C.B.; Daniel Rutherford Haldane, who was destined to do such splendid service for the medical profession in the way of securing needed reforms in the methods of teaching; Thomas Keith, later on to be one of the fathers of abdominal surgery; William Aitken, who was in due time to be placed at the head of the Army Medical School at Netley; Alexander Keiller, who became a noted gynecologist, and George W. Balfour, who made his mark as a clinical teacher, practitioner, and author. Of this group of fellow-students, the three that became Gairdner's closest friends were James Warburton Begbie, Henry Duncan Littlejohn, and William Rutherford Sanders. Sir Henry Littlejohn states that Gairdner had a most cultivated mind and easily took first place among his fellows; and that he was a most lovable man, and spent a most useful life. In 1842, or when he was eighteen years of age, he gave out a few poems of rare excellence. Even at this early age he had acquired a vast amount of learning, and had a cultivated imagination. One stanza from his poem on Beauty would take a place with anything from the best lovers of the Muse. It shows how deeply his mind was tinctured with the æsthetic at a time when he was in the midst of his academic studies. Here it is:

> How beauteous is Evening, when the Sun,
> With his long lines of softened light, appears
> More glorious than when day has just begun,—
> As though his beams were dimmed with Ocean's tears."

The master word of Gairdner's life was "work." In 1843 he was first in Physiology and high in all his other subjects. Some of his friends feared that he would break down under his strenuous efforts to take a leading place in his class, and, at the same time, keep up his reading of the best general literature, such as Goethe, Schiller, Byron, Shelley and Wordsworth. During his last year at college he was taken ill with a severe attack of typhus fever, which greatly reduced his strength. He recovered, however, sufficiently to graduate in 1845, when he was not quite twenty-one. His classmates have left the record that after lectures he would often enter into a discussion of the subjects of the day with his professors, and that it was with great difficulty that the latter could hold their own against his keen logic and incisive arguments. On graduation he was in much need of a rest and a change. The opportunity came during the summer, when he was asked to go to Rome as the medical attendant of Lord and Lady Beverley. His stay in that city made an impression on his mind that remained with him all his life. He returned from Rome in the summer of 1846.

He now decided to settle in Edinburgh, and secured appointments as resident clerk under Drs. Duncan, Andrew and Douglas, and Mr. Miller, surgeon. During these years he bent his energies with great determination into clinical observations. In the year 1848, Dr. Hughes Bennett was a candidate for the chair of Physiology. He was editor of the *Medical Journal,* published in Edinburgh; and, as much of his time was taken up over the election to the chair, he put the work of editing the *Journal* on Gairdner. It is worthy of note that Gairdner did what he could to secure Bennett's election, regarding him as the best man for the position. It was during this period that he made his investigations into the pathology of the kidney. The important feature of these studies on the kidney was the separating of the several types from each other, and the clear picture drawn of the waxy kidney and its etiology. He had also become a member of the Medico-Chirurgical Society, and, in 1848, was appointed Pathologist to the Royal Infirmary. Two years later he was elected a Fellow of the Royal College of Physician. On the termination of his first course on pathology, in 1849, his class presented him with a copy of Bright's Hospital Reports, and a very flattering

letter. In this class were a number of graduates and former fellow-students, including Begbie, Littlejohn, Keith, Smith, Struthers and Donkin. This was the year in which he published his cases of enlarged thymus gland, with anemia, gastric and pulmonary hemorrhages. In many other respects the condition of status thymicus was revealed to his mind.

For the next few years he gave much attention to the study of cholera, bronchitis, diseases of the lungs, aneurism, pericarditis and important health matters. His papers on cholera, in 1849, called forth the unstinted praises of Corrigan and Stokes, of Dublin. As the findings on 89 post-mortems he concluded that the blood is less changed than usually thought, it coagulates in the blood vessels as usual, the color does not differ from that normally met with in death from other diseases, and that viscidity of the serum is noticed when death occurs in the stage of collapse or early reaction. The lungs and the right side of the heart may be full of blood, but that the liver, kidneys and spleen are usually paler than normal, and that general congestion does not exist. The veins are generally full, but this is common in death from other causes, while the formation of ecchymoses is more common than in other diseases. Glandular secretions are not suppressed, unless that of the kidneys in the collapsing stage. The bile is not suppressed, but is liable to be retained in the gall bladder, causing distention. There is nothing unusual in the liver. The pia mater is frequently injected. There are many patches of ecchymoses in the intestinal canal, especially in the cecum, varying in color to dark purple, or ashy grey.

His letters about this period show that he was taking a keen interest in the politics of the day, the recent books that had appeared, and all questions pertaining in any way to improve the status of medical education. While a student, an agitation was started to the effect that students might take some of their lectures outside the walls of the Univeristy. The Edinburgh Town Council conceded this, but the professional body opposed this statute and appealed to the House of Lords. The decision was given on the side of freedom in 1847, the view that had been held by Gairdner during these years of storm. A new honor came to him in 1851, when he was made assistant physician to the Royal Infirmary, and also made a member of the Paris Medical Society.

The scientific work he had done up to this date was of a truly monumental character, both in amount and quality. He was most painstaking in all he did, and weighed every word he said and calculated every step he took. His first contribution came when he was twenty-four years of age, in the form of a series of articles in the *Monthly Journal of Medical Sciences*, on the Pathology of the Kidney. These articles laid the foundation for much of the very best work that has since been done, and, as time went on, the soundness of his teaching was more and more confirmed. He clearly saw the varieties of kidney disease, and offered far-seeing speculations on causation and prognosis. The year 1850 was a busy one. This was the year in which he published his researches on the pathological conditions caused in the lungs by Bronchitis and Bronchial Obstruction. In these investigations he pointed out the effect of bronchial obstruction in causing dilatation of the small bronchial tubes and air vesicles. He pointed out how, in these cases, the inspiratory difficulty gave rise to localized emphysema. His work for the next year was devoted to his studies on aneurism of the aorta and pericarditis. In the former, he pointed out with marked clearness the pressure effects of aneurism, and in the latter he cited a series of cases of recovery, and discussed the after-effects of the adhesions on the heart. Three points were emphasized: (1) That there might be no friction sound; (2) that its presence did not prove the existence of pericarditis; and (3) the great care required to distinguish peri- from endocardial sounds. This work was so carefully and so thoroughly done that, notwithstanding his subsequent large experience and his constant desire for accuracy, he found nothing that he should change. The year 1852 saw him dipping into a phase of medical study that was destined to work a remarkable change. His papers on the proper reporting and registering of the causes of death in institutions and in private practice laid the foundation for an improved, almost completely new, system of vital statistics. His work here was the beginning of a true scientific side to the study of the sickness and deaths of the country. In the same year he published the first report of the Pathological Department of the Royal Infirmary. It was a model on which all such reports might well be based.

In 1852, the Regius Professorship in Medicine in the University of Glasgow became vacant, and Gairdner applied. He was supported from Edinburgh by Christison, Begbie, Scott, Miller and Syme; from London by Watson, Jones, Bright, Walshe, Todd, Budd, West, Parkes, Paget and Latham; from Dublin by Graves and Stokes, and from Paris by Valleix. He was unsuccessful on account of his age, and the appointment was given to John Macfarlane. In the following year, however, Gairdner met with a reward for his labors by being raised to the rank of a full physician to the Royal Infirmary, which brought with it the duty of lecturing on Medicine. He was an ardent advocate of bringing the student into actual contact with the patient at the bedside. To this new work he bent his energies with the same devotion that he had given to pathology, and with the same gratifying results. This marks a new era in his career, and, indeed, in British medicine. It is extremely interesting to note that at this time he was a very close student of the writings of Hippocrates, and ever gave the highest place to the methods of that ancient Greek. This was the date on which he delivered his famous lecture on Blood-Letting before the Fellows of the Royal College, who were to decide as to his fitness to be a lecturer. The views enunciated in this lecture have stood the test of time, as they stood the test of the occasion when delivered. He was very busy this year on his observations on the Performance of Post-mortems, and the Pathology of the Liver. In this period he also published some further work on Thoracic Aneurisms, and his important paper on Dilatation of the Heart in Connection with Diseases of the Lungs. It may be said that what he did here began to lay a true foundation for the study of cardiac affections and a sound system of therapeutics of the organ, both of which he followed up with marked assiduity throughout his long professional career.

In the *British and Foreign Medico-Chirurgical Review* for 1853, he dealt at considerable length with the causes of dilatation of the heart. He there laid down the two main conditions, namely, obstruction to the circulation and weakening of the heart for the work it has to do. Among other things, he made the following statements: (a) In mitral obstruction the right side of the heart and the left auricle are enlarged, while the left ven-

tricle is not, and may even be smaller than normal; (b) in mitral regurgitation there is enlargement of the right side, together with some dilatation and enlargement of the left ventricle; (c) in disease of the aortic valves there is usually marked hypertrophy and dilatation of the left ventricle and much less of the right side; (d) in some instances, of slight valvular disease, there is very great dilatation and hypertrophy, while, on the other hand, in some cases of severe valvular disease the enlargement may be only slight. A careful study of these teachings with the opinions then held will show what a distinct step onward they make.

The years 1853 and 1854 were fertile years. He was hard at work on his investigations on the heart, the liver, and post-mortem investigations. This was the date at which he wrote to his brother James his views on the medical profession. Among other things, he entered into that phase of it where so many toil hard among the poor classes, and without the slightest scientific aspirations, their sole object being to grind out an existence. He wrote with warmth against the wretched remuneration offered by the unions to their medical attendants. There was even then the curse of the poorly-paid doctor to a union. He then goes on to criticize the disgraceful treatment accorded the army surgeons in the Crimea by Lord Raglan, when they were denied proper supplies and at the same time called upon to discharge the most arduous and dangerous sort of tasks. At the same period he wrote about the writers of his day. He gave a high place to Thackeray and a very ordinary one to Froude, for whose general tone of skepticism he had no use.

In 1855, the great and good Alison, Professor of Medicine, died. It was the general feeling that Gairdner would be the choice; but the Town Council of Edinburgh of that date did not differ much from a city council of to-day. Fitness was not always the reason for a choice. Dr. Wood was also in the running. Through the influence of Sir James Simpson, the choice fell upon Dr. Laycock. Dr. Laycock proved to be a man of much ability, and was loyally suported by Gairdner, once the selection was made. On that occasion Gairdner was supported by Latham, Thomson, Peacock, Hewett, Gull, Bristowe, Budd, Fuller, Davies, Brinton, Clark, Kirkes, and Jenner, of London; by Banks, Corrigan, Marsh, and Smith, of Dublin; by Barthez, of Paris; by Rilliet,

of Geneva; Lebert, of Zurich; Sigmund, of Vienna, and by Macfarlane, Easton and Bell, of Glasgow. After his defeat, Dr. Wood ceased to lecture, and this left Gairdner as the only extramural lecturer on Medicine. Dr. Gairdner, however, took his defeat in a calm and philosophic manner. In a letter of that date, he set forth in great clearness his views on some of Shakespeare's plays, which show what a careful and thoroughgoing student of that great dramatist he was.

With his increased opportunities to lecture to students, through the retirement of Dr. Wood, came an increased output of papers and lectures. It was shortly after this that the celebrated controversy between himself and Dr. Hughes Bennett occurred on blood-letting, in which he completely routed that redoubtable champion of wrong views. His paper in the *Edinburgh Medical Journal* is a masterpiece of logic and a splendid specimen of lucid expression. Bennett's reply, on the other hand, was abuse and not argument. Gairdner took the position that, while blood-letting had been seriously abused, it had a value in properly selected cases. Bennett held that inflammation was always the same; while Gairdner argued that pneumonia would differ in different years, and said: "Indiscriminate bleeding, and indiscriminate treatment of all kinds, are bad." He held that in suitable cases, blood-letting in pneumonia could modify symptoms and shorten the illness. His paper might be republished to-day as one giving the views of 1913. At a later date he fortified his position by reporting cases, with cogent reasons for and against the resort to venesection. During the years 1858-59-60-61, he contributed his papers on cases that he had treated, Infantile Mortality, the Use of Alcohol in Hospital Practice, An Account of Cardiac Murmurs, and on Pericarditis. It was in 1859-60, that he claimed that pneumonia and some acute inflammations came within the domain of preventive medicine and practical sanitation. Insanitary conditions were potent causative factors. It was at this period that he contributed his views on the treatment of some forms of Bright's Disease, and showed the advantages that might be derived from brisk purgation and the employment of diuretics. He contended that the objection to this line of treatment, in sub-acute cases, with scanty flow of urine, was unfounded. These contributions to medical

literature at once caught the ear of the medical profession. On the subject of alcohol, he took the ground, from which he never wavered, that it is a stimulant and a medicine, and must be so used; and that it is not a food. He combated the views of such men as Todd, who had advocated the administration of large quantities of alcoholic stimulants in acute and febrile diseases. He showed that both the mortality and morbidity rates were greatly lessened by a discriminate employment of stimulants, and in many instances by withholding them altogether. In 1858, in his review of Professor Miller's small book on the use of alcohol, he said: "Alcoholic stimulants are not tissue builders. There is no ground for their habitual use. In the tear and wear of life, the fag and worry of work, alcohol is at times a very necessary medicine, at times a very useful help, at times a very enjoyable luxury." In chronic and wasting diseases he was most sparing in its use, and in such diseases as pneumonia and typhoid fever he condemned Todd's methods in strong terms. His lecture on Cardiac Murmurs, delivered before the Royal College of Physicians of Edinburgh, and afterwards published, introduced for the first time the graphic method. This method has been adopted in some form by almost every clinical teacher since. So noted a teacher as Henry T. Bowditch, of Boston, wrote to him for his paper, in order that he might benefit by its use among the Boston students.

In 1860, he published his investigations on typhoid fever. He pointed out in very clear language that it was an entirely different disease from typhus fever. He also pointed out that there must be some specific cause for the disease, that was carried about in some mysterious manner. While he disposed of some of the beliefs of the day as to its method of spread, he did not succeed in showing the connection with water, milk, etc.

The most eventful year in his life had now come. Ill-health caused Professor John Macfarlane, of Glasgow, to retire from the chair in Medicine, an event which was soon followed by his death. Gairdner had just given to the public his papers on Health in Relation to Air and Water; Observations at the Bedside; and Clinical Medicine. In his volume on Air and Water, in 1862, not a word is said about microbes; but the views on sanitary laws were most valuable. He touched on the Code of

Sinai, that of Lycurgus, the Platonic Ideal, Defoe on the Plague, Quetelet's Sur l'Homme, Catlin's Indian Tribes, etc. He became a candidate for the second time for this chair. His application was favorably entertained by the Home Office, and he received a letter, dated 6th September, 1862, from Sir George Grey, Home Secretary, informing him that he had been appointed to the Regius Professorship of Medicine in the University of Glasgow. His appointment met with marked approval throughout Britain, the Continent, and in America. On 16th October, 1862, Sir William Jenner wrote him thus: "I learned just now of your appointment. I am excedingly glad of it, and congratulate you sincerely." When his book on Clinical Medicine appeared, he received laudatory letters from Lionel Beale, Andrew Clark, Charles Murchison, James Paget, J. B. Radcliffe, Hyde Salter, Francis Sibson, Thomas Hawkes Tanner, and Thomas Watson, of London; from Andrew Buchanan, George Buchanan, John B. Cowan, J. G. Fleming and Harry Rainy, of Glasgow; from David Craigie, James Duncan, J. Matthews Duncan, H. D. Littlejohn, Douglas Maclagan, and Alexander Peddie, of Edinburgh; from H. Bond, of Cambridge; and many others. It is the highest form of praise that a book should bring to its author personal letters from such a galaxy of clinical teachers and authors.

In severing his connection with the Royal Infirmary of Edinburgh, and the Royal College of Physicians' Extra-Mural School, he received the following resolution: "It was moved by the President of the Royal College of Surgeons, and seconded by the President of the Royal College of Physicians, that the managers, while they are happy to hear that Dr. Gairdner's services have met with so high a reward, beg to express their regret at losing his valuable aid as physician in the Hospital, and to thank him for the assiduity and conscientiousness with which he has performed his duties during so long a period." Before leaving Edinburgh, the two Royal Colleges, and many medical friends, tendered him a banquet.

Glasgow, at the time of Gairdner's advent in that city, was favored with the presence of a number of distinguished scholars. These included John Caird, the noted theologian; William Thomson, afterwards Lord Kelvin; Hugh Blackburn, the eminent mathematician; Joseph Lister, the father of antiseptic surgery;

Professor William Tennant Gairdner, M.D., in 1862, at the age of 38, when appointed Regius Professor of Medicine in the University of Glasgow.

Allen Thomson, the noted anatomist; John Easton, still remembered by Easton's syrup, and many others. His colleagues in the hospital were Drs. Ritchie, Fraser, and Orr, as physicians; while the surgeons were Lister, Martin, Buchanan and Lyon. Into his work among these men he at once entered with remarkable energy. He threw himself into his systematic lectures on medicine with great zeal, and soon raised the clinical teaching in the wards to a level that it had never attained prior to that date. During the later years of Professor Macfarlane's tenure of the chair, clinical teaching had fallen to a rather low ebb. Gairdner had to make a strenuous effort to have a sufficient number of beds placed at his command. He took the position that the Professor of Medicine should also be a clinical teacher. In this he had a firm friend in Lister. To say that the teaching of medicine was revolutionized by him is not overstating the case. During the first five or six years in Glasgow, he contributed a number of valuable papers to the journals of the day. Among these may be mentioned the Action of Expectorant Remedies, The Employment of Alcohol in Typhus Fever, The Clinical History of Empyema and Pneumothorax, Supposed Embolism with Remarkable Symptoms, The Functions of Articulate Speech, Aphasia of Cerebral Origin, Lectures on Cardiac Diagnosis, Fatal Acute Pleurisy, Pneumothorax, Clinical Lectures on Diagnosis, Nasal Diphtheria, Chorea Treated by Chloral, Diseases of the Right Side of the Heart, and many reports on the sanitary condition of Glasgow.

With regard to cardiac hypertrophy and dilatation he drew attention (a) to the influence of diseases of the lungs, liver and kidneys and the presence of aneurism in causing these changes in the heart. He thought diseases of the lungs, liver and kidneys had not as potent an influence as had been accorded them, and that rather heart affections caused disease of these organs; (b) he emphasized the effects of a diseased condition of the blood vessels and the existence of aneurisms on the heart; (c) in emphysema and bronchitis there are dilatation and hypertrophy of both left and right side. This is not so in phthisis and pleurisy. (d) 9 out of 10 cases of dilatation without valve lesion are due to emphysema or some condition of lung atrophy or reduction in size. When the chest expands in such cases the

heart dilates as well as an attempted dilatation of the lungs. The diseases of the lungs that cause dilatation of the heart in this way are chronic bronchitis, bronchial obstruction, chronic pneumonia, contracting tubercles, empyema and pleurisy with compression of lung and contraction of chest. He showed in this way that emphysema and cardiac dilatation had a common origin. (e) He disputed Rokitansky's view that excessive enervation caused cardiac hypertrophy.

On Dr. Gairdner's arrival in Glasgow the sanitary condition of the city was in a very bad state. He gave a lecture on Public Health, and this so much impressed the authorities that they at once regarded him as specially sent to the city. He was offered and accepted the position of Medical Health Officer. He was thus one of the first of this class in Britain, as he proved to be one of the greatest. He immediately set to work to grapple with the problems that lay before him for solution, and select and train his staff. Typhus fever alone caused in 1864, 1,138 deaths, and in 1865, 1,177 deaths. He secured an office and some necessary fittings at very small cost. In due course a site was secured and a fever hospital erected of wood construction, containing 136 beds. Gairdner personally visited the most insanitary districts. At first he met with much opposition from the people, but the influence of Mr. Ure, City Engineer, and Sir Nathaniel Dunlop, Provost, along with his own, gradually overcame this; and in due time the Health Department became one of the most popular of the branches of civic administration. This position he held for eight years; and, when the sanitary affairs of the city were well organized, he resigned and was followed by Dr. James R. Russell, who had been trained for these duties by Gairdner.

His address on articulate speech delivered in March, 1866, is a most noteworthy effort to throw light on what was then a *terra incognita*. He clearly showed from his cases that there might be paralysis without aphasia, and also that there might be aphasia without paralysis. He also made it clear that aphasia could exist without loss of intellect or impairment of it. He also drew attention to the frequent association of paralysis of the writing hand along with aphasia. On clinical and pathological evidence he gave convincing proof of some brain lesion in

these cases. He was on the threshold of a great discovery, namely, that there might be a lesion of the conduction paths and not of the cortex, and so there might be aphasia without impairment of mind or paralysis. But the state of knowledge of brain physiology and pathology was not sufficiently advanced to enable him to take this step; but the conception of the condition was in his mind, as revealed in his address.

In 1870 he was married to Miss Helen Wright, cousin of the wife of his intimate Edinburgh friend, Professor Rutherford Sanders. This was the beginning of a very happy home life. Gairdner made as ideal a husband and parent as he had been a physician, teacher and sanitarian. For the next few years he was very busy, and published many valuable papers. Among these might be mentioned that on John Baptist Morgagni and His Successors, Books and Practical Teaching, Clinical Instruction, Angina Pectoris, and the Physiognomy of Disease. He took an active share also in the work of the Glasgow Medico-Chirurgical, Clinical and Pathological societies. In these societies he was an able debater, one of the kindest of critics, and always most suggestive.

As the acting Chairman of the Section of Medicine at the Edinburgh meeting of the British Medical Association, in 1875, he delivered an address on the Brunonian Theory. This theory was started by Dr. John Brown in 1775. It advocated rich feeding and the abundant use of stimulants in health, as well as in disease. In the address, Gairdner said: "The art of medicine is like a tree; it must have its roots in the soil of facts, and its branches and leaves in the upper air amid the currents of human thought. Unless its roots are well fastened down in the ground, it will be blown over; but, unless its leaves are freely inhaling every breath of opinion, it will wither and die, as surely as if torn up by the roots." He then pointed out that extreme views, as those of Brown, had no firm root in the soil of facts, nor could they stand the force of criticism.

In 1876, Professor Laycock, of the University of Edinburgh, died. Many of Gairdner's friends urged him to apply. It will be remembered that, in 1852, he was a candidate against Laycock. There was some probability that his intimate friend, Daniel

Rutherford Sanders, might be a candidate. Gairdner delayed making any formal application on this account until it was too late. The appointment went to Grainger Stewart, whom some in this country, including the writer, may have met and followed round the wards. By the death of Laycock, the position of Physician-in-Ordinary to Queen Victoria became vacant, and it was offered to and accepted by Gairdner.

He was never idle, and in some phase of medical science his fertile and cultured mind was ever at work. In 1879 he delivered the Morison Lectures before the Royal College of Physicians on the modern views regarding the nature and treatment of insanity. He was President of the Medico-Psychological Association in 1882, and again took up the study of insanity. This topic was the one chosen for his address before the University of Glasgow Medical Society, in 1885. These addresses had many careful students and ardent followers. They had a wide and valuable influence on the proper conception of mental derangements and their treatment. The best that is to be found to-day in the modern care of the insane can be found in these addresses. The vast accumulation of pathological knowledge which he had acquired he brought to bear on the causation of insanity; and, on this foundation, he started out to build up a sound system of management and treatment. On the subject of mental alienation no sounder or more humane writer ever put pen to paper. It was at this period that he urged so strongly his views regarding compulsory notification of infectious diseases, as one of the most important steps in preventive medicine.

Between the year 1883 and 1892 a number of high honors were conferred upon him. He received the honorary degree of LL.D. from his Alma Mater; the University of Dublin conferred on him the honorary degree of M.D.; the Royal College of Physicians of Ireland made him an Honorary Fellow; he was elected President of the British Medical Association, which met in Glasgow in 1888, when he delivered that remarkable address, The Physician as Naturalist. On resuming his seat Dr. (Sir) Andrew Clark moved a vote of thanks, coupled with three cheers. This was given with marked zeal—an event that never before nor since occurred in the history of the British Medical Asso-

ciation. In 1892, he was made a Fellow of the Royal Society of London. During these years he gave much of his best thought to the subject of public health and preventive medicine in such papers as those discussing Sanitation, The Prevention of Cholera, and The Treatment of Typhoid Fever. In this year he gave his lectures to practitioners, and among other conditions, pointed out that tabes mesenterica was a genuine form of tubercular disease, and expressed himself as opposed to operative interference. Some new papers were also published on Heart Affections, Aneurisms, and Pathology. His tribute to the memory of Oliver Wendell Holmes is among the finest things of all medical literature. In 1893, he was elected President of the Royal College of Physicians of Edinburgh. In the same year he was made a member of the General Council of Medical Education and Registration, and also a member of the University Court. Some 500 or 600 of his friends presented him with his portrait, accompanied by expressions of the most profound friendship.

Twice he had been offered knighthood, but in 1898 he accepted the honor from the late Queen Victoria. This event had the effect of once more showing the esteem in which he was held, as congratulations came pouring in upon him from all sides. In 1899, he was the guest of honor of the Glasgow University Club, of London, Lord Kelvin presiding. On this occasion he wrote: "Now, it seems as if I, too, must be folding my robe about me, with a view to a not distant end, as Lord Kelvin and I are the only survivors of the group of professors when I became one in 1862." It was during this year that he suffered from a severe attack of influenza. He came to the conclusion that he should resign; and so, in his university address in the spring of 1900, he announced his intended retirement. This, again, brought forth the most prompt manifestations of affection. He was given a banquet, at which his valuable services to medical science and humanity were again lauded. His reply was of the most modest character, in which he admitted, like Lord Kelvin, if what he had accomplished was compared with what he had intended to achieve, his life's work must be regarded as a failure. From a poem read on that occasion, the following stanza is taken:—

Sir William Tennant Gairdner, M.D., LL.D., F.R.S., K.C.B., in 1900, at the age of 76, when he resigned his chair in Glasgow University.

"Though vast your learning, great your skill, and great the
image of your name,
'Twas not by these alone you built within our hearts undying
fame.
The spotless life, the simple faith, the guileless soul, the kindly
heart—
These more than monuments endure, frail triumphs of the sculp-
tor's art."

The remaining seven years of his life were spent in retirement in Edinburgh. He became subject to severe fainting spells, and was under the professional attendance of Drs. Wyllie, Ritchie, Sanders, and Gibson. During these years, as health permitted, he attended the General Medical Council of Britain. In 1900, he went to London to receive the Moxon Gold Medal for Clinical Research, awarded by the Royal College of Physicians. In the same year he contributed to Allbutt's System of Medicine the article on Aneurism. In 1901 he published his Memories of College Life, in 1903 his address on Faith, Hope and Love, and in 1904 his last, and one of his best, papers, on the Method of Percussion. His classic account of his own illness should be mentioned here. It is one of the most perfect things in medical literature. He was afflicted with Stokes-Adams pulse, which often fell to 20 per minute.

The end came on the evening of 28th June, 1907. Dr. Yellowlees, of Glasgow, had called upon him in the late afternoon, and bade him good-bye to attend a medical dinner. In the evening Gairdner was resting on his couch. He asked for another book, which was brought to him. When a member of the household looked in upon him half an hour later, there remained only the lifeless form of Scotland's greatest physician. For more than sixty years he had held aloft the lamp of medical science and professional honor. In the latter half of the nineteenth century only one other British clinician could be said to take a higher place, the famous J. Hughlings Jackson.

Gairdner, as the writer recalls him, was tall, somewhat spare, slightly stooped in the shoulders, with a full and thoughtful face, and with deep, philosophic, suggestive, but, withal, intensely kind and human eyes. The weeks the writer spent with

him in the wards were made by that great teacher most enjoyable and profitable. Armed with an introduction from Gairdner to Jackson, the acquaintance of the latter was made in London, and resulted in meeting with the utmost kindness at his hands.

One might ask in what lay the secrets of Gairdner's unique success. In the first place, he was a conscientious and an ardent worker. In the Edinburgh Institution he made every hour count, and was, at the age of sixteen, when he entered the University, a marvel to all. This he followed up by winning first place in the physiology class. This was followed by many years of ceaseless devotion to the study of pathology. Then, lastly, came the long period of clinical investigation, when treatment of every sort was put through the crucible many times over.

Another source of his power was his candor and love of truth. To him, the Greek saying that a lie is alike hateful to gods and men, was an eternal axiom. Sham and pretence were bad in any calling, but unpardonably bad in medical research. All theories and notions had to be pulverized by the sledge-hammer of truth, wielded by the arm of reason and relentless logic, and the fragments tested and tried for whatever grains of truth they might contain. He found "tongues in trees, books in running brooks, sermons in stones, and good in everything."

Then, again, there was his love for his profession, his fellow-practitioners, and his patients. The equanimity of his temper under the most trying circumstances was a noted characteristic of the man. His life from 1845, when he graduated, until 1907, when he died, was one long benediction for all with whom he came in contact. He had faith in mankind; he had hope for his profession, and he had love for all; but the last was the greatest guiding influence in his life.

Another outstanding trait in his character was his unselfishness. He was ceaseless in his efforts to advance the interests of others; and on many occasions he placed others in positions of influence and prominence which had been offered to himself. In all this, the keynote of what he did was to be found in the word, Service. The noblest thing in life, with him, was to serve others. His appeal for the spirit of toleration and good will, which he delivered in 1882 on accepting the Presidency of the

Glasgow Medical Society, clearly brings out this phase of his character.

It is impossible to properly estimate the value of what he accomplished. Of the advancements made by medical science during the latter half of the nineteenth century, the words of Virgil can be truthfully applied to his share: "*Et quorum pars magna fui.*" As years passed and his pathological knowledge and clinical experience ripened, the sweep and capaciousness of his mind ever widened. Through the tangled forests of doubt and over the bogs of effete theories, he steadily, step by step, made his way. With such care did he build his structure that it was seldom, indeed, that it ever became necessary for him to go over it again and recast his statements. When far advanced in his professional career, he would quote what he had said in his earlier years as that by which he wished to stand. Knowing him as the writer did, the desire is to leave the following words from Shakespeare as the final impression of the man:

"He was a scholar, and a ripe and a good one;
Exceeding wise, fair-spoken, and persuading;
And to those who sought his counsel, as sweet as summer."

THE EARLY DIAGNOSIS OF CANCER OF THE UTERUS WITH REPORT OF AN HYSTERECTOMY IN AN EARLY CASE*

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Of all the organs of the female body the uterus becomes most frequently affected with cancer.

Of the tumors which attack the uterus, cancer stands next in frequency to fibroids.[1]

The morphology of cancer is now well known to the surgeon, but of their biology and etiology nothing is known. No part of the womb is exempt from cancerous degeneration, but cancer of the cervix is much more common than cancer of the body.

1. Types of cancer of the cervix:

(a) Cancer of the vaginal portion.

(b) Cancer of the cervical canal.

Cancer of the vaginal portion starts either from the squamous epithelial covering or from erosions of the vaginal portion.

Cancer of the cervical canal starts from the mucous membrane of the canal.

2. Cancer of the body of the uterus:

Cancer of the body starts from its mucous membrane or its glands.

Cancer of the vaginal portion presents two types:

(a) The epithelioma, when arising from the squamous epithelial covering. Its characteristics are solid cell cones which proliferate into the connective tissue and form epithelial pearls.

(b) When arising from "erosions" they have the characteristics of cervical epithelium, since the "erosion" is a derivative of the cervical epithelium and consists of cylindrical cells. Rarely the cells undergo metaplasia into squamous cells, and then cell nests may be found, but cornification is rare in these erosion

* Given in abstract at the Academy of Medicine, Toronto, Section of Surgery, April, 1913.

cancers. Both types are alveolar cancers. Of course the glands of the erosion may show cancerous changes too.

CLINICAL FORMS OF CANCER OF THE VAGINAL PORTION.

1. *Ulcers* with wall-like margins and a greasy base, with hard infiltrated surroundings. These may be confused with a hard chancre. In form they are single or on either lip, or erosion-like about the external os.

2. *As round nodules* under the intact mucous membrane; later the mucous membrane may be destroyed and then deep cavities are left.

Here it is well to remember Mr. Rutherford Morison's distinction between cancerous, tuberculous and syphilitic ulcers.[2]

(a) The cancerous ulcer is an irritable crack around which a tumor has developed (growth in excess of destruction).

(b) The tuberculous ulcer usually commences as a small sore, which has gradually destroyed its site (destruction in excess of growth).

(c) The syphilitic ulcer, as a tumor which has broken down (an ulcerating tumor).

3. *Proliferating types.* Usually start from one lip of the cervix, cauliflower type; they are nodular and break down easily.

Cancer of the neck of the womb arises from the mucous membrane of the cervical canal, but appears pathologically the same as the erosion cancer, i.e., after the cylindrical surface epithelium has changed into squamous epithelium, solid cell-cones proliferate into the connective tissue of the cervical canal.

The glands of the cervix less often become cancerous, just as one should expect, since metaplasia is not going on in them so frequently as in the surface cylindrical epithelium. When they do the cells proliferate towards the lumen of the gland, as well as breaking through the basement-membrane and displacing the connective tissue.

Clinically cervical cancers present:

1. As polypus tumors, arising on the base of benign polypus.

2. In rarer cases the whole mucous membrane of the canal is involved and a large ulcerous passage is found, the only sign being a puckering of the external os.

3. Endothelioma, arising from the lymph spaces, very rare.

4. Perithelioma, Barbour, very rare.

Cancer of the body of the uterus arises in the mucosa.

1. *Rarely from the surface epithelium,* when it does the cylindrical epithelium changes into squamous epithelium and solid plugs proliferate into the depths of the muscle, and even cornification may be seen. The old writers called this psoriasis of the uterine mucous membrane. But it is only what one expects since metaplasia precedes malignancy often.

2. *Much commoner cancer* of the body arises from the glands. They experience a marked increase, proliferate into the depths of the uterine wall as far as the peritoneal covering and may even perforate.

3. Cancer may also arise from the *base* of a mucous polypus. Here the structure of the glands may seem normal so that only stratified epithelium and a preserved basement membrane may be seen.

Close examination reveals polymorphous epithelia, perforation of basement membrane, and solid cell plugs growing into the depths. This has been termed adenoma malignum, but this is incorrect since they never have the type of a true adenomatous character.

Clinical types:

1. Circumscribed, arises at the base of a polypus.
2. Diffuse.

Breaking down takes place later; the supporting tissue is rarefied and displaced by the cancer. The adenomatous carcinomata are especially noted for the fine inter-glandular network of supporting tissue, often only a single cell layer. In scirrhus the inter-glandular network is more dense. All around the margin of the growth the supporting tissue is found in a condition of exceedingly dense round-celled infiltration which is doubtless a reaction to the tumor's infiltration.

Uterine cancer seems especially liable to superficial disintegration. Hence it offers a good medium for the various germs in the canal of the vagina and cervix. But cocci also invade the body, but appear later than in the cervical and vaginal forms, since the internal os acts as a barrier.

Hence the cancer is an incubator for both saphrophytes and pathogenic germs, especially streptococci. Hence, this fact must

be borne in mind in examining cancer cases, and one's fingers should always be surgically clean.

Hemorrhage, due to the anatomical conditions.

When the tumor breaks down superficially the numerous vessels become eroded and bleed on the least provocation, therefore bleeding during coitus is a very valuable sign of vaginal or cervical cancer.

Only in early cases can one divide them into classes as above; later they merge. This is not always by infiltration, but by permeation, e.g., metastases may occur from cervix to body, or implantation on the vagina by the secretions.

INCIPIENT CASES.

In the cervix. Predisposing causes.

1. Frequent parturitions.
2. Lacerations and erosions.
3. Chronic endocervicitis.
4. Partial prolapse.
5. Wearing of ill-fitting pessary.

In the body of the uterus.

1. Presence of fibroids.
2. Endometritis.
3. Sterility.

FIRST SYMPTOMS.

In the Vaginal Portion and Cervix.

1. Bleeding after coitus.
2. Bleeding after douching.
3. Bleeding after stool, especially after great constipation.
4. A watery discharge, which makes the patient's vulva sore and the vagina tender. Here examine for diabetes.

In the Body of the Womb.

1. Indefinite pains. These are often due to the infiltrating process, either of the bacterial infection, i.e., inflammatory, or the growth cells themselves.
2. Slight irritability of the bladder or rectum from the same cause.
3. Increase in the menstrual flow, if before the menopause.

4. Return of the menstrual flow, if it has already ceased; just a slight drop or two of blood.

5. Slight bleeding after stool, which gradually trickles down to the vulva. It is characteristic in cancer cases that the blood seems to be rich in fatty particles, and has lost its tendency to clot, therefore flows away more freely.

6. Occasionally, but rarely, in the early cases does one get uterine contraction pains, as described by the late Sir J. Y. Simpson. If occurring in the early stages they are probably due to a stenosis of the internal os, which prevents the slight discharge escaping; in the uterus trying to pass this clot, cramps arise.

The greatest causes for mistakes are:

(a) Presence of polypi.

(b) Senile endometritis.

Senile Endometritis.—The leucorrhea of old women must be very carefully gone into. The possible explanation of this discharge is that, after the menopause, the vagina, already patulous, gapes at its introitus, and the monthly flushing with the germicidal menstrual blood not being present, the bacteria flourish in the vagina.

They thus may reach the endometrium and set up a mild form of inflammation of the endometrium; this is senile endometritis.

Absorption from this surface often sets up changes in the vessels of the uterine wall, and so one gets a fibrosis of the uterus, much the same as in cases of gastric atony. Now this senile endometritis is on the borderland of cancer, and is very important to understand.

From this endometritis the patient suffers from "whites" and often slight hemorrhages. This discharge may also become offensive.

Hence, this condition must not be confused with a variety of carcinoma which arises in an atrophic uterus. Therefore it is best to curette carefully and get a piece of the endometrium. Here a caution is necessary: that the *whole* endometrium must be curetted very thoroughly.

There are three epochs in the disease:

1. Before the menopause.

2. At the menopause.

3. After the menopause is well established.

Before the menopause is well established one must distinguish:

1. Abortions, with long-neglected hemorrhages and foul discharges.

2. Polypi.

3. Fibroids.

The predisposing causes:

Old lacerations badly healed, much endocervicitis, badly fitting pessary or partial prolapse of the uterus, causing constant frictional action.

Hence, in examining for cancer of the vaginal portion, one must get a clear history of any one or more of these predisposing causes, i.e., examine for.

1. Old lacerations. Why do these predispose to cancer?

Because, if extensive enough, they have extended into the parametric tissue of the pelvic floor, and fixed the uterus to the pelvic wall. Now, one knows how relentless scar tissue is; that it keeps on contracting continuously; hence the pelvic pains, etc.

The mucosa of the cervix exposed to the friction of the vagina, may undergo metaplasia, the columnar cells becoming squamous; this step is always a pre-cancerous stage.

2. Endocervicitis. This may be combined with the bad lacerations, but is present in virgins. But cancer seldom starts in the glands of the cervix, but from the columnar epithelium of the canal, and only from this when chronically irritated.

3. Partial prolapse; constant friction.

4. Erosions, if they become granular or polypoid, are liable to become pre-cancerous, since the polypus is exposed to friction; besides one must consider polypi always as pre-cancerous, especially if they recur after apparent removal. These conditions as said have been diagnosed from tubercle and chancre.

So, before the menopause, one must think of erosions, tubercle, syphilis, endocervicitis, and mucous or fibroid polypi. Erosions and endocervicitis may each cause a pinkish discharge and often foul-smelling, and T.B. and chancre resemble the cancerous ulcer, but remember here Rutherford Morison's definition:

2. At the Menopause:

1. Fibroids.

2. Metritis, or fibrosis uteri.

Here the menopause seems delayed. Sir John Bland-Sutton[3] has formulated a maxim that where the hemorrhages recur in a fibroid uterus after the menopause, the condition to be suspected is either cancer of the body of the uterus or malignant degeneration of the fibroid.

Remember that cancer of the cervix is commonest in women who have borne many children. Hence, any unusual discharge or bleeding at this period is suspicious.

Cancer of the body is commonest in sterile married women, because they are more apt to have suffered from fibroids or endometritis.

3. After the menopause:

Here my experience is that cancer of the body is more frequent than cancer of the cervix.

So here any unusual discharge, especially pinkish, and staining the clothing, or noticed especially on rising in the morning, when it flows from the vagina into the chamber on urinating, is suspicious.

This bleeding may be confused with bladder conditions.

Also, there may be a history of the passing of a small clot-mass due to the discharge being pent up for some time in the uterus. Pain is more frequent in cancer of the body, and often a weighty or weak feeling, due to the action of the absorbed toxines and germs upon the parametric tissue. These pains are more common in nullipara, for the reason that the internal os is apt to be stenosed.

PRE-CANCEROUS CONDITIONS.

Arsenic can, by internal administration, cause a chronic dermatitis, e.g., upon the palms, upon which carcinoma sometimes develops. So, also, chimney sweeps' cancer is thought to be caused by the As. in the soot.

Reasoning from this, and remembering that some observers have shown that the phenomena of menstruation may be due to the storing up of As. in the uterine glands, it has occurred to me that possibly one may find a cause for cancer of the uterus, especially of the body.

Cancer of the body of the uterus is most frequent at and

after the menopause, the patients over 50 being much more numerous than those under 50 years.

Cancer of the body is more common in patients who have not borne children, but parity does not preclude the existence of cancer of the body.

Why is carcinoma more common at the menopause? There are two possible explanations.

1. At that period the uterine mucosa has reached its limit of growth and repair, i.e., it is at the stage of "old age." Hence retrograde changes take place. Whether arsenic may have something to do here in setting up chronic irritation, since it is no longer got rid of by the menstruation, is a conceivable theory. But we are beginning to recognize here also a pre-cancerous condition—that of chronic inflammation.

For example, in chronic superficial glossitis, the walls of the basal cells of the epithelium may be broken through by the inflammatory round-celled inflammation[4], and this particular inflammation of the tongue often precedes cancer. So here patients often at or after the menopause sometimes suffer from a chronic inflammation of the endometrium called "senile endometritis." This inflammation, long continued, may in time erode the basement membrane of the uterine glands, and the gland cells no longer restrained, and indeed undergoing metaplastic changes, may take on malignant tendencies. So, for this reason, one considers senile endometritis a pre-cancerous change.

Here the symptoms are a copious purulent discharge. Now, discharge from the body of the uterus is rare after the menopause, except either from senile endometritis or new growth.

Hence, if improvement does not quickly follow after curetting, remove the uterus.

REPORT OF A CASE OF EARLY CANCER OF THE BODY OF THE UTERUS.

Mrs. R., referred to me by Dr. Stella Cunningham. Gave the following history: Aet. 66 years; no children; no miscarriages; always well, except at the menopause, when she had flushings, beginning at 43 and lasting until she was 50. Towards the latter year the periods became irregular, every two to three months. Often there were clots and much bleeding. At 50 this stopped and the patient was perfectly well for 16 years. Then she began to notice a pinkish discharge, especially on rising in the morning

and using the chamber. She has been a widow for the last 13 years. Also, her clothing was often soiled somewhat. This began last October, 1912, and continued until March, 1913, when she consulted her physician. On examination, Dr. Cunningham considered the condition was suspicious of cancer. I was asked to see the case in consultation on March the 12th. A careful curetting was done, and the curettings examined microscopically and found to be adeno-carcinoma, showing irregular mitoses and irregular epithelial cells, with disappearance of the basement membrane, and very little inter-glandular tissue. Hysterectomy was performed by me on March 16th. The patient made an uneventful recovery, and left the hospital in 18 days.

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Society Proceedings

THE ANNUAL MEETING OF THE CANADIAN MEDICAL ASSOCIATION

THE annual meeting of the Canadian Medical Association will be held in London from June 24th to 27th. The president-elect, Dr. H. A. MacCallum, and the local committee are actively engaged with the arrangements for the meeting. Their spirit and resolution is to make the event a notable one in the history of the Association. Members, at the moment, are considering the serious question of their attendance and to members at large the question is a serious one. It involves a consumption of time, in many cases a long and expensive railway journey, with provision for carrying on the work of the practitioner during his absence, since a physician in a country district cannot abandon his work as readily as his confrere in the city. To many practitioners this visit to London is all the holiday they may expect. In many cases it must take the place of a visit to the hospitals of some large city for refreshment of knowledge and an experience of new methods of treatment.

The real object of these meetings is not amusement or even entertainment; and in times past the profession in places where the meetings have been held burdened themselves unduly in the attempt to convert the occasion into one of extravagant merry-making. The value of the social advantages must not be underestimated, but they should not be allowed to overshadow all others—and men can make, and renew acquaintances, in simple and inexpensive surroundings. The scale of entertainment has been rising from year to year, until now a meeting has become so great a burden that many communities are willing to forego the honor through dread of the expense. This excessive entertainment, although prompted by the virtue of hospitality; obscures the real value of the occasion; it is too great a burden upon the local men, and, to tell the truth, it is a burden upon

those who partake of it, especially to the older men, for it is the pleasures of life which make living so tiresome. In this respect, Montreal has been the worst offender.

These meetings—and the reference now is to the meetings in general—find their main justification in the advancement of knowledge, in the stimulus and inspiration which they create. The event is too serious a one to be overwhelmed by the contingent. The last meeting at London, at which Dr. MacCallum also presided, was a model of what a meeting should be. The spirit of hospitality hovered over all the proceedings without interfering with them. The general addresses were germane to the subjects; the sections met at the appointed times; they continued to the end; the papers were read by the writers, and not merely "by title." The discussions were full, free, and vigorous, and any tendency to prolixity and incoherent reminiscence was instantly checked.

For, after all, the discussion is the most important part of the proceedings, if it is authoritative, critical, and born of experience. If that is recognized, men of experience will attend the meetings and yield up freely of their store; and men who are anxious to learn and judge will be only too willing to come together in a general consultation of the profession. Serious men expect to be treated seriously, and it is very discouraging to those who come bringing of their best to feel that their efforts may disarrange plans for an excursion or some other form of entertainment. London in June is one of the most beautiful cities in Canada, and there is diversion enough in walking its shady streets with the chance of meeting an old friend or making a new one.

The general committee has not in the past given sufficient help to the local committee. As a result, the programmes have not been well balanced. They have been overweighted with men whose affiliations were local rather than general, and their experience limited within a narrow range. To read a paper before this Association is a privilege, but it has been seized by some and neglected by others, to the detriment of all. It would be a proper suggestion to the local committee to make a demand upon the general committee for assistance in arranging the programme. Indeed it is upon the general committee this burden properly

falls, and they should not be slow to assume it, at least in part.

The Canadian Medical Association, in respect of vastness of territory from which its members are drawn, of the proportion which its members there to the number of those engaged in practice, of the actual attendance of members, and of the material which may be presented, is one of the most important medical societies in the world. It is now strongly established, and free from the control of any section or faction. It is in reality the profession, and it only remains for the profession to use its advantages to the full.

An attractive programme is being arranged for the annual meeting this year. On June 26th two symposia will be held, one on diseases of the stomach, led by Dr. Alexander McPhedran, the other on the thyroid, led by Dr. A. J. Ochsner, of Chicago. Amongst others taking part will be Drs. Stockton, of Buffalo, and Hoover, of Cleveland, and Drs. Halpenny, Olmsted, and Bruce. On the last day clinics will be conducted, the medical by Dr. Frank Billings, the surgical by Dr. John Murphy, of Chicago. The addresses in surgery and in medicine will be given by Dr. Alexander Hutchison and Dr. L. F. Barker, respectively. Another distinguished Canadian from Johns Hopkins who will be present is Dr. Thomas Cullen.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE

The Seventeenth International Congress of Medicine will be held in London, August 6th to 12th, 1913, under the patronage of His Majesty the King. The Congress will be opened by H.R.H. Prince Arthur of Connaught at 11 a.m. on Wednesday, August 6th, in the Albert Hall. The officers are: President, Sir Thomas Barlow, Bt., K.C.V.O., M.D., F.R.S.; Treasurers, G. H. Makins, C.B., F.R.C.S., and Sir Dyce Duckworth, Bt., M.D.; Chairman of the Executive Committee, Sir Alfred Pearce Gould, K.C.V.O., F.R.C.S.; General Secretary, Dr. W. P. Herringham, F.R.C.P. The members of the Congress will be: (a) qualified members of the medical profession who have made formal appli-

cation and have paid a subscription of five dollars; (b) scientific men who have been nominated by a national committee or by the Executive Committee, and who have paid the same subscription. The wives and daughters of members will be required to pay half of this fee. Subscriptions should be sent by postal order or cheque to the Treasurers, 13 Hinde Street, London, W., and at the same time the section in which each member wishes to be inscribed should be indicated. Application should be accompanied by visiting card giving medical qualifications and address. The steamship companies have offered special facilities to those who attend the Congress. Dr. W. H. B. Aikins, 134 Bloor Street West, Toronto, is the secretary of the Canadian National Committee, and will give more detailed information to anyone who applies to him. Dr. Aikins has worked unremittingly, and the whole profession in Canada owes him a debt of gratitude for his assiduous labor in the common cause.

The last meeting of the Congress in London took place in 1881, when Sir James Paget was President. This year the President is Sir Thomas Barlow.

The Central Office of the Congress will be in the Albert Hall. The sectional meetings will be held in rooms in the University of London, the Imperial College, the Royal School of Science, the School of Art, and the Central Technical College. These bodies have generously placed their buildings, which are all close together in South Kensington, at the disposal of the Congress. The Royal College of Physicians, the Royal Society of Medicine, St. Thomas' Hospital, the Royal Army Medical College at Millbank, and the Royal Dental Hospital are also offering accommodation for sectional meetings. The Students' Union of the Imperial College will serve as the men's club, and the authorities of Alexandra House have kindly lent rooms for a ladies' club.

There are in all twenty-six sections and sub-sections. Their sessions will be held in the morning and in the afternoon. The morning sessions will be devoted to discussions on fixed subjects, which will be introduced by eminent medical men from every part of the world who have been invited for the purpose. The invitations have been very generally accepted, and there seems no doubt that the discussions will be of great interest and im-

portance. The work which the several sections purpose to do will be noticed in future issues.

Five general addresses have been arranged. These will be delivered by Professor Chauffard (Medicine), Professor Harvey Cushing (Surgery), Professor Ehrlich (Pathology), Mr. W. Bateson (Heredity), and the Right Hon. Jno. Burns, M.P., President of the Local Government Board (Public Health). They will be delivered in the Albert Hall.

It is estimated that about 5,000 medical men and 2,000 ladies will attend the Congress.

The organization of the Congress has been going on for nearly three years. It will give some idea of the magnitude of the task to state that it has taken a complete year to arrange the personnel of the various committees, and another complete year to settle the programme of the discussions in the sections. The latter was issued on September 30th last. There are several discussions for which two or more sections have been combined. At the present time the reports drawn up by those chosen to introduce the discussions are being received and set up in type. It is hoped that all these reports which will form the basis of discussions will be printed and bound as a separate volume for each section before the Congress opens. A second volume for each section will be published subsequently containing the speeches delivered and the independent papers presented at the Congress itself.

A circular will be issued on April 30th giving information on travelling facilities, both to London and in London, on hotels and boarding houses, on the location of the various sections, and on other points likely to be useful to members. Early in June the final programme of the scientific business will be published which will include the list of independent papers accepted by the sections and the names of intending speakers.

The following is the arrangement of Canadian representatives: Vice-President, Dr. T. G. Roddick, Montreal; Executive Committee, Dr. W. H. B. Aikins (Secretary, Canadian National Committee), Toronto; Dr. A. McPhedran, Toronto; Organizing Committee, Dr. George Armstrong, Montreal; Dr. C. K. Clarke, Toronto; Dr J. C. Connell, Kingston; Dr. H. H. Chown, Win-

nipeg; Dr. E. P. Lachapelle, Montreal; Dr. F. J. Shepherd, Montreal.

Section I—Anatomy.—Council, Dr. J. Playfair McMurrich, University of Toronto.

Section II—Physiology.—Vice-President, Thomas Gregor Brodie, M.D., F.R.S., University of Toronto; Council, Dr. Archibald Byron Macallum, University of Toronto; Dr. Swale Vincent, Manitoba University.

Section III—General Pathology.—Vice-President, Dr. J. G. Adami, McGill University; Council, Dr. John Joseph Mackenzie, University of Toronto.

Section III (a)—Chemical Pathology.—Council, Dr. John Beresford Leathes, University of Toronto.

Section IV—Bacteriology and Immunity.—Council, Dr. Alfred H. Caulfeild, Toronto; Dr. Gordon Bell, Manitoba University.

Section V—Therapeutics.—Vice-President, Dr. A. D. Blackader, McGill University; Council, Dr. Velyien Ewart Henderson, University of Toronto.

Section VI—Medicine.—Vice-President, Dr. A. McPhedran, University of Toronto; Council, Dr. Harry Bertram Anderson, University of Toronto; Dr. F. G. Finley, McGill University; Dr. H. A. McCallum, Western University, London; Dr. James Third, Queen's University, Kingston.

Section VII—Surgery.—Vice-President, Dr. F. J. Shepherd, McGill University; Council, Dr. Irving Heward Cameron, University of Toronto; Dr. J. Alex. Hutchison, McGill University; Dr. O. M. Jones, Victoria, British Columbia; Dr. Eugene St. Jacques, Laval University, Montreal; Dr. John Stewart, Dalhousie University; Dr. H. T. Williams, Western University, London.

Section VII (a)—Orthopedics.—Council, Dr. Clarence L. Starr, University of Toronto.

Section VII (b)—Anesthetics.—Council, Dr. Samuel Johnston, University of Toronto; Dr. Robert A. Stevenson, Toronto.

Section VIII—Obstetrics.—Vice-President, Dr. Adam Henry Wright, University of Toronto.

Section IX—Ophthalmology.—Vice-President, Dr. Richard

Andrews Reeve, University of Toronto; Council, Dr. J. W. Stirling, McGill University.

Section X—Diseases of Children.—Council, Dr. Allen Mackenzie Baines, University of Toronto.

Section XI—Neuropathology.—Council, Dr. D. A. Shirres, McGill University; Dr. Ernest Jones, University of Toronto.

Section XII—Psychiatry.—Vice-President, Dr. C. K. Clarke, University of Toronto; Council, Dr. T. J. W. Burgess, McGill University; Dr. W. H. Hattie, Nova Scotia Hospital; Dr. Edward Ryan, Queen's University.

Section XIII—Dermatology.—Council, Dr. Phillip Burnett, Montreal; Dr. G. G. Campbell, McGill University; Dr. David King Smith, Toronto.

Section IV—Urology.—Council, Dr. Edmund E. King, Toronto.

Section XV—Rhinology.—Vice-President, Dr. J. D. Gibb Wishart, University of Toronto.

Section XVI—Otology.—Vice-President, Dr. H. S. Birkett, McGill University.

Section XVII—Stomatology.

Section XVIII—Hygiene.—Vice-President, Dr. Charles S. Hodgetts, Ottawa; Council, Dr. R. M. Simpson, Winnipeg.

Section XIX—Forensic Medicine.—Council, Dr. D. B. McTaggart, McGill University.

Section XX—Naval and Military Medicine.—Vice-President, Colonel Guy Carleton Jones, M.D., Ottawa; Council, Lieut.-Col. J. T. Fotheringham, M.D., Toronto.

Section XXI—Tropical Medicine.—Council, Dr. J. L. Todd, McGill University.

Section XXII—Radiology.—Council, Dr. F. G. Harrison, University of Toronto.

Section XXIII—History of Medicine.—Council, Dr. Andrew Macphail, McGill University.

Medical Jurisprudence

MEDICAL INSANITY AND LEGAL INSANITY

The great distinction between medical insanity and legal insanity has been responsible for many of the difficulties of medical jurisprudence. This is strikingly manifest from two editorials which recently appeared in *Law Notes* and the *New York Law Journal*. These editorials are of such force that we deem it valuable to present them just as they were written without further comment.

"The spectacle of so-called 'alienists' testifying in a manner as cool as the shekels in which they are paid demand, upon an issue involving the life of a human being, to a conclusion against which even the prosecutor, after securing a conviction thereon, revolts, makes the blood of an ordinary mortal run cold. Such an instance is to be found in the recent case of People v Cain (206 N. Y., 202), an appeal from a conviction of murder in the first degree. In that case, notwithstanding the fact that the defendant had been released from the insane ward of a State's prison hospital but a short time before the commission of the crime with which he was charged, which was the killing of three persons and the slashing of six others with a knife on very little, if any, provocation, 'the three experts sworn for the People pronounced him sane and responsible for his acts.' The district attorney seems to have been possessed of some of the qualities which make us shudder in reading the opinion of the court, for we find that 'the learned district attorney, upon the argument of this case, frankly conceded that the defendant was insane, but contended that he still knew and understood the difference between right and wrong; that he knew the nature and quality of his acts; that they were liable to produce death, and that it was wrong.' He concluded his argument with the statement: 'It may be that this unfortunate defendant does not merit the ex-

treme penalty of the law. If so, the executive can safely be trusted to temper justice with mercy. As far as the law itself is concerned, however, the interest of the public demands that its provisions should not be frittered away.' It could hardly be expected, of course, that the prosecuting officer who obtained the conviction would admit that there should have been no conviction. The fact which naturally appeals most strongly to the layman, however, is that as 'there were no errors committed by the trial court in its ruling upon admission and rejection of evidence,' and 'the question of the defendant's insanity was doubtless one of fact for the determination of the jury,' the judgment and conviction was affirmed. Of course the defendant will receive executive clemency, but the case affords a strong example of the misuse of expert testimony and the unreliability of the testimony of at least three 'alienists.'" (*Law Notes*).

"In People v. Cain (206 N. Y., 202) the Court of Appeals affirmed a conviction of murder in the first degree, although all the members of the court were convinced that the defendant was insane and the district attorney expressly conceded it. Such a judicial *reductio ad absurdum* has naturally attracted widespread comment. The principal lesson to be deduced, in our judgment, was that the law of this state should be changed so that insanity should henceforth be treated purely and entirely as a question of fact and not defined as matter of law, as it is now. Until this basic reform is accomplished we may be prepared for constant anomaly and embarrassment in dealing with criminal cases in which insanity is raised as a defense.

"Other morals, not so radical, have been drawn from the decision, one of them by our contemporary, *Law Notes*. To a certain extent its reflections upon 'Cold Blooded Experts' may be just, but it may be suggested in the first place that the record does not disclose how far, if at all, the three experts for the People who pronounced the defendant 'sane and responsible for his acts' were led to express such view by the form of questions asked by the prosecution and embodying the so-called knowledge of right and wrong test, or 'legal insanity.' It appears that the two medical experts for the defendant testified differently, giving it as their opinion 'that he was afflicted with paranoia.'

"It may further be suggested in extenuation, if not justifica-

tion, of the experts for the People that they were dealing with a man who had served a former term of imprisonment for manslaughter. While so confined hallucinations of a persecutory type had developed and he had been transferred to and remained in a State Hospital until the expiration of his term of imprisonment, when he was discharged. It is not at all improbable that the experts for the People realized that the defendant was a dangerous paranoic, who was nevertheless 'legally' sane, and concluded that the best thing to be done would be to have him found guilty under the assumption that his sentence would be commuted to imprisonment for life and the menace of his ever being at large again would be avoided. We do not, of course, pretend to know upon what considerations or motives the experts acted, but in face of the absurd theoretical result have ventured to suggest an explanation which embodies what seems to us the most salient subsidiary reflection to be drawn from the case.

"And this is that public safety was wickedly imperiled by the discharge of this obvious paranoic from the hospital at the conclusion of his first term. His subsequent acts of homicide by their practical example vindicate the wisdom and firmness manifested by the courts in refusing the successive applications to discharge Harry K. Thaw from the asylum for the criminal insane. In the Thaw case the jury rendered a sensible verdict, notwithstanding the defective condition of the law. The statutes should be amended so as to facilitate the acquittal of genuine paranoics on the ground of insanity. And the theories of expert alienists, reinforced by such a concrete illustration as is furnished by the Cain case, show the necessity of permanently incarcerating paranoics who have committed homicide or displayed a homicidal tendency."—*Medical Review of Reviews.*

School Hygiene

MEDICAL INSPECTION OF SCHOOLS

"The New Public Health," to employ a good phrase first used, we understand, by Dr. H. W. Hill, calls for a new literature in the shape of monographs, reports, manuals, text-books and more elaborate treatises for the use of the general public, the medical student, the general practitioner and the specialist on public health. Of all these, so far at least, the most useful are the reports, especially in the cases where the reports are like the one now before us, namely, "The Report of the Medical Officer (Education) of the London County Council, 1911."

Dr. James Kerr, "the first School Doctor" here presents a report, with tables and appendices, extending over nearly 200 pages and containing information and ideas about the rising generation and what can and ought to be done for them by the doctors and nurses engaged in medical inspection which will afford to the reader more real and practical instruction and guidance on these matters, than perhaps any text-book yet published.

Space will not admit of even a brief analysis of the contents, we can only attempt to indicate a few of the main lines followed in the report.

Existing knowledge, as Dr. Kerr says, is far ahead of practice. He proceeds to deal with home and school sanitation, remarking that bad air and no playgrounds are primarily responsible, both in school and home, for debility, anemia and adenoids, etc. He then takes up the general subject of medical inspection and treatment in a masterly way.

A discussion and analysis of the findings of the year in the London schools follows. Out of 32,000 who have received treatment, 19,000 have been satisfactorily treated, 4,000 unsatisfactorily treated and about 9,000 are still under treatment.

Prophylaxis is then dealt with. Dr. Kerr rightly regards training in cleanliness as one of the functions of teacher, nurse and doctor. He remarks that the expenditure of public money on the health of children is of even greater national importance than the expenditure of public money on the health of adults.

Defects of speech, defects of hearing, mental defect, school planning, etc., are the remaining subjects dealt with.

Mr. Macleod Yearsley has furnished some important statistics about deaf children. It appears that measles is a much more important cause of deafness than scarlet fever, in the London schools at least. Of 874 cases of deafness examined, 42 per cent. were of congenital origin and 52 per cent. were acquired. Mr. Yearsley estimates that at least 147 of the latter class might easily have been prevented.

The remarks on school planning, lighting, heating and ventilation are very practical and complete.

It is announced that the distinguished author of this report, Dr. James Kerr, is to visit Ontario and lecture on the subject of medical inspection of schools, in September of this year, by invitation of the Hon. the Minister of Education, Dr. R. A. Pyne. This news will be received with general interest and satisfaction and will no doubt aid materially in advancing the subject of school hygiene, on which Dr. Kerr is so well qualified to speak.

Selected Articles

CURRENT MEDICAL LITERATURE

TINNITUS AURIUM.

In discussing the prognosis and treatment of tinnitus, Wittmaack (*Deut. med. Woch.*, September 26th, 1912) states that he does not regard a sharp distinction between objective and subjective noises as feasible. In the same manner, it is not always possible to distinguish between subjective sounds and entotic sounds. The characteristics which can be attributed to the sounds, however, should be noted in each case. After entering upon the subject of the presence or absence of rhythm in the sounds, which can be ascertained by requiring the patient to describe them fully and imitate them, he turns his attention to the etiology of the various forms of tinnitus. He commences with a large group in which no objective changes can be found in the ear. When the hearing is not reduced in sharpness, an organic aural basis of the tinnitus may be excluded. When the noises are rhythmical, the first possibility is to identify the rhythm with that of the arterial pulse. At times the noises are objectively audible by means of the stethoscope or otoscope. Under normal conditions the arterial pulse is not heard by the subject, but pathological changes in the peripheral circulation or in the heart may render it audible. Aneurisms in the neighborhood of the ear or neck frequently produce intense and irritating noises. In these cases the pulsation may be seen or felt. But cases of this kind are rare. Again, tumors, such as a goitre, enlarged glands in the neck, etc., may cause the tinnitus. Should peripheral causes not be found, the heart must be examined to ascertain whether the noises are due to a definite heart disease or even to a temporary increase of the cardiac activity due to bodily exertions or to physical excitement. An increase in pressure of the cerebral fluid, and also sounds produced in anemia, must likewise be thought of.

Less frequently the rhythm corresponds to that of the respiration. At times periodically recurring sounds of an irregular rhythm may be produced by the condition of contraction of certain muscles. In these cases a rapid tempo similar to the ticking of a watch may point to a spasmodic condition of the muscular apparatus of the Eustachian tube. The next group of cases dealt with in which no changes in the ear can be found includes those cases with arrhythmical noises. In many cases the noises are the only symptoms of the condition, or by far the most prominent one. The basis on which such noises are produced is most commonly neurasthenic. The author calls attention to the fact that a perfectly normal person hears very similar noises when in an absolutely noiseless room. The difference between the normal perception of noises perceived in a so-called acoustic chamber and those of neurasthenic tinnitus lies in the pathologieal tendency of the neurasthenic to exaggerated self-observation. The noises are not imagined. He discusses the probable production of the sounds in these cases. Somewhat similar are the noises in hysteria, only in these cases the psychical element is pronounced. In treating of the prognosis of tinnitus he states that much depends on the cause. When there is a neurasthenic basis, an examination of the ear and any form of local treatment will probably do harm, and may alter the prognosis considerably. On the other hand, when the cause lies in the circulatory apparatus, cure may be effected at times, as, for instance, when there is an operable aneurism. Should an aneurism be present which cannot be dealt with surgically, symptomatic means may do some good. The same holds good in the cases of tumors, goitre, and the like. In the case of cardiac disease, the treatment will have to be directed entirely to the endeavor to compensate the cardiac defect. When the heart condition is amenable to treatment, the noises may disappear. In neurasthenia, the attention of the patient should be deflected from his ear. Suggestion may be employed with advantage. Wittmaack finds it useful to place the patient in a room where some loud, rhythmical noise can be heard. The babbling of a brook or some similar noise in nature, or, failing this, the ticking of a loud alarm clock, may suffice to cover the tinnitus. The prognosis is unfavorable when the tinnitus is due to a combination of neurasthenia and arterial pulsa-

tion. Next he turns to tinnitus associated with organic changes of the ear. He discusses the production of noises as a result of inflammatory processes of the middle ear or of the tubes or its pharyngeal orifice. The most favored view is that the noises are produced in the muscles or vascular apparatus. Cerumen is, further, a fruitful case of tinnitus. Passing on to catarrhal processes of the middle ear, the formation of adhesions and otosclerosis, he admits that the etiology is by no means clear. In the last named the noises frequently take on a pulsating character, which would lead to the supposition that they are produced in the vessels. Acute processes involving the middle ear yield better to treatment than chronic processes, and in the majority of these the otologist will not be able to do entirely without symptomatic remedies. In the last place, he deals with tinnitus arising in the course of disturbance of the internal ear. The treatment depends in these cases on whether one is dealing with an intoxication or infection, a nerve change or a constitutional disease. If a poison can be avoided, such as quinine, salicylic acid, alcohol, or nicotine, the prognosis is in so far good, provided that the damage done is not irreparable. Less good can be done when there is locomotor ataxy, general paralysis, leukemia, cachexia, or arterio-sclerosis. In conclusion, he deals with what he speaks of as symptomatic treatment. Bromides and valerian are mentioned first. Next, iodides, sweating agents, arsenic, and thyroid substance are cited as yielding good results, at times. Counter-irritation, hyperemia, and hydrotherapeutic procedures are often worth trying. In desperate cases an attempt may be made by lumbar puncture, and, as a last resort, he cites the operative opening of the labyrinth and its destruction. The effect of these various remedies and the actual prognosis of each case will depend on the minute analysis of each case; and it may be possible, when all the participating factors have been considered, to combine several therapeutic measures with beneficial results.

INFECTION OF THE KIDNEYS BY BACILLUS COLI.

A report by Munich (*Archiv. für. klin. Chir.*, vol. 98, N. 3) on 60 cases of renal infection, in which bacteriological investigations were made, brings out the following points: As a rule, the prognosis in acute unilateral *coli* infection of the kidneys is good,

but it is doubtful when both kidneys are involved. The necropsy on two patients who succumbed to the infection showed the kidneys to be permeated with multiple miliary abscesses. The ultimate results of the infection were studied in 21 cases, which the author followed up for a considerable period. In 18 of these the *Bacillus coli* was the only germ found; in 1 case there was a mixed infection, and in 3 cases the nature of the infection was not stated. The treatment was conservative in 11 cases, nephrotomy was performed in 4, and nephrectomy in 6 cases. Subsequently, the urine was sterile in 6 cases, in 6 a pure culture of *B. coli* was found, in 6 this germ coexisted with staphylococci, in 1 a pure culture of staphylococci, and in another a pure culture of streptococci, were found. Ten patients showed no symptom, 9 still suffered from occasional but slight attacks of pain in the region of the kidneys, and 2 suffered from severe and continuous renal pain. The author finds that nephrectomy gives good results in cases of severe unilateral infection. But most cases of slight and acute *coli* pyelitis and pyelonephritis require no operation, for they rapidly react to rest in bed, urotropin, and a liberal consumption of water. When fever, rigors and unilateral pain persist, the author recommends catheterization of the ureter as the best aid to drainage; but he seldom practises lavage of the renal pelvis as advocated by Casper, for he finds this method is no improvement upon simple drainage. He advises nephrotomy when such threatening symptoms as fever and rigors persist, and he admits that when the disease is complicated by pregnancy, the induction of labor may be a necessity. Vaccine treatment he has not practised.

STENOSIS OF THE DUODENUM.

Anders (*Amer. Journ. of Med. Sciences,* September, 1912) finds, from a statistical study, that the acquired form of stenosis of the duodenum occurs more often than is generally supposed, and that there exists a somewhat close relationship between this condition and such causative affections as duodenal ulcer, carcinoma, disease of the head of the pancreas, and of other adjacent structures. He reports the case of a woman, aged 56, who had suffered for four years with attacks diagnosed as "acute gastritis." A fortnight prior to coming under observation she had

been seized with acute pain and tenderness in the right hypochondrium, lasting about three minutes, and recurring three or four times daily without apparent relation to food. The pain was not referred, and jaundice followed the first attack, and a small mass, which did not move with respiration, was palpable. Gallstones were not present under X-rays, but the pylorus was seen to be in relation with the gall-bladder region, suggesting adhesions. After about a fortnight's improvement, vomiting of large quantities of bile-stained fluid recurred without recurrence of pain. At operation the duodenum was found to be markedly adherent to the under surface of the liver, and kinked, the stenosis being due partly to the cicatrix of an old ulcer and partly to the kinking from adhesions. From a statistical examination of 262 collected cases, 215 were due to benign causes, and therefore amenable to operation. The absence of meteorism; the presence of biliary, but never fecal, vomiting; the disappearance of the meteorism in the epigastrium after vomiting, and early anuria, are the symptoms recognized as being of major diagnostic importance in stenosis below the ampulla of Vater. In those cases due principally to kinking the diagnosis of duodenal obstruction is generally impossible, such a kink as a rule resulting from adhesions produced by an ulcer or other lesions, and colicky epigastric pains, recurring regularly three to five hours after meals, will usually be present. If the kink is above the ampulla of Vater, the symptoms will be practically identical with those of pyloric stenosis, but of more acute development. If the kinking be below the ampulla of Vater, oft-repeated vomiting of biliary secretion becomes a prominent symptom. When the obstruction is situated at the ampulla of Vater, the condition can usually be diagnosticated during life, since the usual gastrointestinal symptoms with chronic jaundice and progressive emaciation result from the absence of the biliary and pancreatic secretions, and marked dilatation of the stomach and duodenum above the stenosis usually occurs. When below the ampulla of Vater, in addition to the pain and vomiting of bile, the stools will be acholic and constipated, and analysis of the gastric contents will usually show an absence of free hydrochloric acid, due to the reflux of alkaline secretions from the duodenum into the stomach. —*British Medical Journal.*

ROYAL SOCIETY OF MEDICINE

SECTION OF GYNECOLOGY AND OBSTETRICS.

VENTRIFIXATION.

At a meeting on March 6th, Dr. Amand Routh, President, in the chair, Dr. W. S. A. Griffith, in opening a discussion on ventrifixation of the uterus, said that the operation was adapted for the relief of certain cases of displacement of the uterus, where there was a failure on the part of the supports of the uterus to maintain that position necessary for the comfort of the patient, and to enable her to perform ordinary laborious duties. These cases fell into two classes: (1) Those in which the supports of the uterus were sufficient to maintain it at, or nearly at, its proper level in the pelvis, but in which retroversion or retroflexion of the body of the uterus and adjacent broad ligaments leading to prolapse of the ovaries, was the cause of the serious discomfort. (2) The cases in which prolapse of the uterus, broad ligaments, and ovaries was considerable and associated with varying degrees and forms of vaginal, vesical, and rectal protrusion. Many cases in both these groups were sufficiently relieved by pessaries, though some women, for various reasons, preferred the relief to be obtained by operation to the prolonged use of pessaries and the medical attendance and frequent douchings which were the necessary alternative. The following appeared to be clear indications for the operation: Class 1: The uterus is retroverted and more or less fixed by adhesions. The uterus is pressed down in the position of retroversion by a tumor, commonly ovarian. After enucleation of a fibroid from a retroverted uterus. The retroversion is complicated by prolapse and enlargement of the ovaries, a constant source of pain, unrelieved, and in some cases increased, by the pressure of the pessary. The retroversion or retroflexion is not kept in position by a pessary owing to the small size of the vaginal cervix or the dilated condition of the vagina. Class 2: In the second class the operation was often needed, the prolapse of

the uterus being accompanied by prolapse of the vagina, and in most cases great enlargement of the vaginal orifice. The large rings so frequently used did much harm by the greater dilation of the vagina which they caused. The support which the operation gave to the uterus in this class was only a part of that needed for their complete relief, and the speaker usually performed it at the end of the vaginal operation—namely, after curetting, partial excision, or repair of the cervix, if these were needed, and after the repair of the posterior vaginal wall and perineum, with anterior colporrhaphy if the cystocele was considerable. An examination of the patients twelve months or longer after operation was essential for a correct opinion as to the result. Some surgeons were in the habit of performing this operation in cases of retroversion in women of poor general health, who had no local symptoms, with the idea that retroversion was a cause of the general feeble state of health. The condition of the uterus in these cases was merely a symptom, and in no sense a cause of the ill-health, and it was undesirable to subject such patients to this operation.

The next speaker, Professor H. Briggs, discussing the technique of the operation, advocated a purely peritoneal direct ventral fixation over a limited and appropriately chosen area, that is, over a site immediately adjacent to the pelvic floor. As a low-level fixation by silk suture of the lower portion of the body of the uterus to the parietal peritoneum adjacent to the summit of the bladder, its peritoneal bands were harmlessly and effectively situate above the usual cervical site of the retroflexion. This method of ventral fixation further ensured complete freedom to the greater part of the body of the uterus during the child-bearing period of life, when the operation was at its best. Only in a relatively small number of cases was ventrifixation alone adequate treatment.

Dr. A. E. Giles dealt with after-results, but premised that his remarks referred not to "ventrifixation" or "ventrosuspension" of the uterus, but to a specific operation to which the speaker restricted the term "hysteropexy." The features of this operation were described. In his previous recorded after-results of abdominal operations down to July, 1909, there were 309 cases

of hysteropexy, 248 of which were traced. From August, 1909, to July, 1912, 199 additional cases were done, making a total of 508 hysteropexy operations. An endeavor had been made to complete the after-histories of the additional cases; about 120 of them had been traced. An analysis of these cases confirmed the conclusions previously arrived at, namely, that the general health was improved and symptoms relieved in over 90 per cent.; that the position of the uterus remained permanently good in over 95 per cent.; that hysteropexy, when followed by pregnancy, caused no subsequent complications of labor; and that pregnancy following hysteropexy did not disturb the position of the uterus. Of the 199 additional cases, 92 were operated upon for retroversion, 40 for prolapse, and 67 for procidentia. To get the best results in the last two groups, it was usually necessary to combine plastic operations on the vagina and perineum with the hysteropexy. It was desirable that operators should record the results of a large number of cases of other operations for uterine displacements.

Dr. Herbert Spencer was surprised at the frequency with which other gynecologists performed ventrifixation, as he himself had only done it twenty-seven times in 1,000 abdominal sections. The reason why he had performed so few of these operations was that it was an unsejentific operation by no means free from danger. Giles had had 4 deaths in 220 cases, Zweifel 5 deaths in 336 cases, 4 of the latter being deaths from septic peritonitis. Another reason which influenced him was that he had seen so many cases in which the operation had failed to relieve the symptoms. He noticed in Dr. Giles's valuable investigation into the after-history of these cases, that 42.2 per cent. of those inquired into had pain after the operation, although in 32.5 per cent. it was stated that the pain was less than before. In his opinion both ventro-suspension and ventrifixation, as ordinarily performed, were unscientific and dangerous operations, giving rise to peritoneal bands, which on many occasions had caused strangulation of intestine For procidentia in women beyond the menopause he considered ventrifixation a useful adjunct to colporrhaphy and perineorrhaphy, but care should be taken to completely close the peritoneum over the bladder.

Dr. Archibald Donald remarked that Dr. Griffith had said the operation should not be performed for retroversion when there were no local symptoms, but he did not state what he considered the symptoms of retroversion to be. The symptoms usually associated with retroversion were menorrhagia, metrorrhagia, and dysmenorrhea, and many operations for retroversion were done in the hope of curing these symptoms, which were attributed to congestion induced by the displacement. There was, however, no reliable evidence that retroversion caused congestion, or that congestion could lead to changes in the endometrium causing menorrhagia, metrorrhagia, and leucorrhea. The practice of stitching up the uterus for the cure of these symptoms was therefore unscientific. The speaker believed that in these cases there was an abnormal condition of the endometrium (endometritis), which was often the cause, but never the result, of the retroversion, and his own practice was to curette these cases and disregard the position of the uterus.

Dr. Macnaughton Jones said he had never performed hysteropexy as advocated by Dr. Giles. Since 1905 the operation he had performed was as follows: A strong catgut suture, to last eighteen days, was passed on each side so as to include a loop of the round ligament, the parietal peritoneum, and the peritoneal fascia. The ligaments were then crossed so as to bring the ligature out at the opposite side; the ligatures were tied after closing the peritoneum. He did not think that *fixation* of the uterus should be practised during the child-bearing period of life.

Miss Ivens said that her operative experience was confined to 150 cases of Gilliam's operation. In the last 50 cases she had adopted Mayo's modification, the round ligament being drawn through the peritoneum at the internal inguinal ring, so that no abnormal slit was left, as in Gilliam's procedure. There had been one fatality, in a case complicated by chronic appendicitis. About 93 per cent. of the cases had been followed up, and the results were very satisfactory.

Dr. Handfield Jones did not consider that cases in which the ovaries and tubes were removed for disease, and the uterus then stitched forwards, should be regarded as cases of ventrifixation, as in the vast majority there was no need to suture the uterus at all. He had found the operation of most use in women of

middle age, who found relief from wearing a pessary, but after a reasonable time were unable to do without this support. He had seen much distress caused by the uterus being fixed at too high a level, and in these cases he had given the patient immediate relief by setting the organ free again. The patient should be prepared for the operation by ten days' treatment in bed with hot douches and glycerine tampons.

Dr. Arnold Lea said he had done the operation seventy-five times in 500 abdominal sections; the greater number of the cases were for backward displacement. He was opposed to treating those cases with pessaries, as the pessaries rarely had any curative effect, except in cases of simple retroflexion following confinement.

Dr. Hubert Roberts believed that the greater number of cases of backward displacement did not require operative treatment. He considered that retroversion was often the first stage of prolapse, and if an operation was required at all it should be directed to repairing the pelvic floor. He had done the operation in a few cases, selecting Gilliam's operation in young women and ventrifixation in women who had passed the child-bearing period.

Mr. Beckwith Whitehouse expressed the opinion that in some centres there was a growing tendency to fix the uterus for inadequate causes. In his experience, fixation often failed to relieve pain in the case of patients suffering from simple displacements, and care should be exercised in the choice of cases. He had seen a case of intestinal obstruction which was caused by a band of adhesions resulting from fixation of the uterus to the abdominal wall, and he did not regard this method with favor. His own preference was for the "sling" operation of Clarence Webster, in which a loop of the round ligament was drawn through the broad ligament on each side and stitched to the posterior uterine wall. He described in detail the technique he had himself been led to adopt.

Dr. J. S. Fairbairn said that with regard to cases of simple backward displacement he agreed with a previous speaker that the operation should only be done when absolutely necessary. The difficulty was to decide what made it necessary, and he considered that those who did these operations by the hundred were

still living in the mid-Victorian period of gynecology when displacements were regarded as of supreme importance.

Dr. Farquhar Murray reported some clinical observations made by Mr. Bryden Glendining and himself upon the capacity of the bladder before and after ventrifixation. In the result half the cases showed an increased and half a decreased capacity after the operation.

Dr. Walter Tate said that he had performed the operation of ventrifixation in 44 cases between the years 1900 and 1910 at St. Thomas's Hospital. In 25 the after-history had been followed, showing that seven had borne one or more children since the operation without any complication occurring during either pregnancy or labor. This good result he attributed to the fact that the fixing sutures were passed through the lower part of the uterus, leaving the fundus free. In contradistinction to a previous speaker, he considered that the operation was specially called for in women in the prime of life who had to earn their living. But he only advised the operation in cases where pessaries and other methods of treatment had failed to relieve. He had also found the operation of use in some distressing cases of incontinence of urine from weakness of the bladder sphincter. By fixing the uterus the neck of the bladder was also supported, and in this way the relief of the trouble might be explained.

The President (Dr. Amand Routh) hoped that the speakers in their replies would more closely define the indications for those cases where ventrifixation was done for retroversion where the uterus was mobile. Accessory ventrifixation was in many cases a recognized and useful addition to a laparotomy performed for removal of appendages, etc., but he doubted if it was often a necessity apart from those cases. His primary ventrifixations did not amount to more than 3 per cent. of the abdominal sections, and they were almost entirely cases where, in addition to the retroversion, one or both ovaries were also prolapsed. Here ventrifixation had its most useful application. Plastic operations, curettage, etc., had each their special indication in these cases of retroversion, and these minor operations often relieved the patient better than a ventrifixation. If these failed, then let ventrifixation be performed. It then became an operation of necessity. Drs. Griffith, Briggs, and Giles briefly replied.

PATHOLOGICAL SECTION.

At a meeting on March 18th, Dr. R. T. Hewlett, President, in the chair, Dr. H. H. Dale read a paper on *Anaphylactic reaction* in the guinea-pig and its modification by strong salt solution. In the investigation the reaction of the rabbit's uterus was utilized, the part being kept in a water bath while its contractions were graphically recorded. Dr. H. R. Dean recounted an *Attempt to preserve hemolytic complement in a permanent form.* It was only partially successful. One method already devised was to absorb it with filter paper and dry; another to salt the serum and keep it cold. The author's method was to cool fresh guinea-pig serum to 0° C., and add cooled absolute alcohol. The flocculent precipitate resulting was then dried; it was soluble in water or salt solution. The solution had but a slight hemolytic action on sensitized blood. It was the mid-piece of the complement factor only that was so obtained. It was not of use for hemolytic observation. Dr. J. A. Braxton Hicks described an *Unusual organism from a case of septicemia* which he had isolated from the blood during life; it was a bacillus of the *proteus* group. The patient was suffering from septicemia following the removal of a pelvic cyst. It was virulent to the guinea-pig. Mr. S. G. Shattock exhibited a histological lesion which he named *Pseudotuberculosis hyalina.—B. M. J.*

PUBLIC HEALTH WEEK

A BRITISH INNOVATION THAT MIGHT WELL BE TRIED IN CANADA.

Public health depends on education. Unless the people appreciate the need for maintaining sanitary conditions throughout the community, the passing of legislation can be of no avail. Consequently, every effort that is put forth to enlighten public opinion in this very vital matter should receive undivided encouragement.

An interesting experiment in this line was tried in Great Britain last year. A National Health Week was promoted, and the results were so satisfactory that it will probably remain an annual institution. The National Health Week Committee out-

lined the general programme for the week, but the details were worked out by local committees. This made it possible to take the greatest advantage of local possibilities. Thus, some schools were more highly trained than others, and the scholars from these were enlisted to give gymnastic and other displays, which demonstrated one branch of physical training for the young. In other places Medical Health officers, Sanitary Inspectors and nurses gave valuable assistance, and their "popular talks" on health matters were listened to with great interest and profit. Again, by means of sermons in churches, addresses in Sunday Schools, addresses to school children by their own teachers throughout the week, the use of health films in the moving-picture shows, having ratepayers visit the water, gas and sewage works of the municipality, and by carrying on demonstrations in nursing and cooking, very many people were made to understand something of the meaning and value of health.

Of course, it may be urged that such spasmodic efforts are apt to have mere transitory results, and that, to be effective, the work must be continuous. But it is well to remember that it is often necessary to shout to awaken a sleeping man, and even wide-awake people are interested by the unusual.

While no central organization exists in Canada for carrying out a National Health Week programme, it should be feasible for many municipalities to accomplish such a task. And the spring season, when the snow has melted and uncovered the refuse of months, is the time for such work. Health and cleanliness go hand in hand.—*Conservation.*

THE MEDICAL COUNCIL OF CANADA

The next meeting of the Medical Council of Canada will be held at Ottawa on the 17th of June and four following days, and it is expected by that time the Council will be in a position to open the new Register to all those who have been in active practice in Canada for ten years prior to the 7th of November, 1912, which was the date on which the Act came into force.

News of the Month

ACADEMY OF MEDICINE OFFICERS FOR CURRENT YEAR

The following are the officers elected at the annual meeting of the Academy of Medicine on May 6th:

Past President, Dr. R. A. Reeve.
President, Dr. H. J. Hamilton.
Vice-President, Dr. H. B. Anderson.
Hon. Treasurer, Dr. W. A. Young.
Hon. Secretary, Dr. W. Harley Smith.

The elective members to Council: Dr. E. E. King, Dr. H. A. Bruce, Dr. W. H. B. Aikens, Dr. D. J. Gibb Wishart, Dr. N. A. Powell, Dr. John Ferguson, Dr. J. A. Amyot, and Dr Graham Chambers.

CHAIRMEN OF SECTIONS.

Section of Medicine, Dr. J. T. Fotheringham.
Section of Surgery, Dr. Wallace Scott.
Section of Pathology, Dr. Duncan Graham.
Section of Ophthalmology or Otology, Dr. D. N. MacLennan.
Section of State Medicine, Dr. J. H. Elliott.
Section of Pediatrics, Dr. H. C. Parson.

THE COLLEGE OF SURGEONS

The organization of the College of Surgeons was effected at the Congress in Washington, D.C., on May 5th. The officers elected were: President, Dr. Finney, Baltimore, Md.; First Vice-President, Dr. Chipman, Montreal; Second Vice-President, Dr. Matas, New Orleans; Treasurer, Dr. A. J. Ochsner, Chicago; Secretary, Dr. F. H. Martin, Chicago.

The following were some of Toronto's medical men who attended the recent Congress in Washington: Dr. Herbert Bruce,

Dr. Fred Fenton, Dr. B. E. McKenzie, Dr. Clarence Starr, Dr. R. A. Reevé and Dr. N. A. Powell.

ANNUAL MEETING AMERICAN MEDICAL EDITORS' ASSOCIATION

The annual meeting of this society will be held June 16th, at the Hotel Radisson, Minneapolis, Minn. An interesting programme has been prepared covering items of journalistic as well as general information. The annual banquet will be held on the evening of the 16th, at the Radisson Hotel.

THE MINNEAPOLIS MEETING OF THE AMERICAN MEDICAL ASSOCIATION

THINGS read have a double value when supplemented by things seen. Physicians who may wish to observe personally the most recent methods and appliances in a great establishment for healing, will have an uncommon opportunity in connection with the forthcoming meeting of the American Medical Association at Minneapolis. The Battle Creek Sanitarium, at Battle Creek, Mich., cordially invites those who will attend that gathering to stop off for a visit to this institution as guests of the management. They will be welcome for a few hours or a day or two, as their convenience dictates. At the Battle Creek Sanitarium they will find many interesting features, including the clinical laboratories, a unique diet system, the Radium Department (the first in America), a remarkably well equipped X-ray Department, and many other up-to-date therapeutic measures.

PERSONALS

Dr. and Mrs. W. A. Young, Dr. Fred Fenton, Dr. N. A. Powell, Dr. and Mrs. Chas. Sheard, spent part of May at Atlantic City, N. J.

Dr. S. M. Hay is spending four months in Europe following the surgical clinics of some of the hospitals of the Continent and Great Britain.

The Physician's Library

BOOK REVIEWS

Mechanical Vibration, Its Physiological Application in Therapeutics. By M. L. H. Arnold Snow, M.D., Author of Mechanical Vibration and Its Therapeutic Application"; Professor of Mechanical Vibration Therapy in the New York School of Physical Therapeutics; Associate Editor of the *Journal of Advanced Therapeutics;* late Assistant in Electro-Therapeutics and Diseases of the Nervous System in the New York Post-Graduate Medical School, etc. Published by Scientific Authors' Publishing Co., 329 West 57th Street, New York. Price, $3.50.

This work affords evidence of the extensive applicability of physical methods to influence physiological functions. In recent years, both the public and the medical profession have shown less confidence in chemical means of treatment—the use of drugs—and a constantly growing desire to employ physiotherapy. Conning one of the older books on pharmacy and therapeutics to-day is like meandering through an ancient graveyard. This alteration has the effect of something that is little less than a revolution, for the great relief and benefit of humanity.

Another side of a question is that it has given abundant opportunity for quackery, being the basis of much irregular practice directed by persons ignorant of the first requisites for assuming responsibility for the serious work of treating disease and dealing with human life and health. The many "schools" and their "graduates," who have increased so greatly in numbers, base their claims almost entirely upon physiotherapy.

While this is true, it should also be pointed out that the "regular" schools are responsible, because of their neglect of teaching along these same lines, calling into use the many valuable means for alleviating or curing disease. The scientific use

of electricity, massage, light and heat, physical training, mechanical aid, and such like, receive but secondary attention in our regular medical colleges, while yet the public recognize these as great forces for good, and consequently give their confidence and dollars to irregular practitioners.

This book, however, is not an intelligent setting forth of any commendable line of instruction, but an ill-digested compilation of extracts and tables—valuable in themselves—from many sources, but jumbled together in a way that renders them almost useless.

B. E. M.

A Text-Book of Pathology, with a final section on post-mortem examinations, and the methods of preserving and examining diseased tissues. By Francis Delafield and T. Mitchell Prudden. Ninth edition. Thirteen full-page plates and 687 illustrations in the text, in black and colors. New York: William Wood & Company, 1911.

This new edition of a well-known work contains 1,113 pages for the edification of medical students and fully-fledged medical men. It is printed clearly on calendered paper, the more important facts being printed in large type, the minor in smaller type. The bibliography is placed in the footnotes. The illustrations are well done, and very instructive. We have read with much interest what the authors have to say on immunity. The chapter on the Blood and Blood-forming Organs, and the one on Tumors, have been re-written. The section on Malaria has been revised. The first portion of the work deals with Conditions of Disease, Changes in the Circulation of the Blood, Regressive and Progressive, Tissue Changes, Inflammation, Animal and Plant Parasites, Micro-organisms, Infectious Diseases, Malformations, Tumors, Lesions Induced by Poisons and by Violence and General Diseases, such as Myxedema, Addison's, Diabetes, Gout, Scurvy, etc. Following these is a readable and edifying resumé of the various divisions of Special Pathology. We can commend the study of this work to the medical student, and a perusal of it by the general practitioner, who ought to keep his mind constantly refreshed on this fundamental subject.

J. N. E. B.

Gynecological Operations, Including Non-operative Treatment and Minor Gynecology. By HENRI HARTMANN, Professor of the Faculty of Medicine, Paris, etc. Authorized translation under the author's supervision, by DOUGLAS W. SIBBALD, M.B., Ch.B., Edin. With 422 illustrations a number in colors. Philadelphia: P. Blakiston's Son & Co. Price, $7.

The fact that Professor Hartmann's "Gynecologie Operatoire" was so popular with gynecologists and students in France led the author to consent to its translation into English.

That the translation has been well done is self-evident.

The book is divided into five parts.

Part I—Means of diagnosis and treatment employed in gynecology.

Part II—Technic of Operations on the Vulva, Vagina, Uterus and Adnexa.

Part III—Operations by the abdominal route.

Part IV—The therapeutic indications in diseases of the genital system of women.

Part V—Operations on the urinary apparatus.

One thing which impresses one in reviewing this most excellent book is the practical way in which the subjects are treated; this is evidently the result of wide experience. It is usually the novice who is willing to submit his patients to the untried methods.

The chapters on Minor Gynecology are very valuable. They will be found of much value to the general practitioner. The plastic operations are clearly described, abdominal procedures are also clearly defined. One thing which pleased me most is the fact that the author lays great stress on exact anatomical knowledge. No surgeon can in my estimation, operate intelligently who does not keep his anatomical facts fresh in his mind. A good example of this is Professor Hartmann's description of Wertheim's operation for cancer of the cervix. He points out the accurate relations of the uretur at the ovarian fossa and shows how easily one can identify it at this site.

By remembering that the uretur forms the posterior limit of this fossa and that the obturator artery, superior vesical and uterine arteries arise from the hypogastric artery in the floor of this fossa one can isolate the uterine artery readily. Also he

points out that one can identify the uretur at this site by palpating the posterior surface of the broad ligament. This, in my opinion, is the best method of beginning the identification of the uretur.

There is a clear description of the whole Wertheim operation.

The therapeutic suggestions are characterized by their directness and brevity. No meddlesome gynecology.

The last part deals with operations upon the urinary apparatus, and among other things gives a good method of dealing with the uretur when accidentally divided during operation.

Altogether the book is most excellent both from the standpoint of the general practitioner or the specialist and one would have no hesitation in recommending it to any one wishing to become familiar with the best traditions and practice of the French school of gynecologists.

A. C. H.

Diseases of the Mouth, for Physicians, Dentists, Medical and Dental Students, by Prof. Dr. F Zinsser, Director of the Department of Dermatology at the City Hospital, Lindenburg; Dozent at the Academy for Practical Medicine, Cologne. Translated and edited by John Bethune Stein, M.D., Professor of Physiology at the New York College of Dentistry; late Instructor in Genito-Urinary Diseases, at the College of Physicians and Surgeons (Medical Department of Columbia University), New York City. With 52 colored and 21 black and white illustrations. New York: Rebman Company, 1123 Broadway.

That there is a need for just such a work as this, the author has proved beyond question. During our student days how little we ever saw of cases of syphilitic diseases of the mouth, so that it is little wonder that frequent mistakes are made in the diagnosis of such cases during the first year or two of actual practice. A volume such as this is needed, and, with its beautiful illustrations, will materially assist the practitioner in both diagnosis and treatment. The publishers are to be congratulated upon their splendid color printing.

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TUBAL REIMPLANTATION

THE various methods of sterilization of the female and their defects are reviewed by G. De Tarnowsky, Chicago (*Journal A. M. A.*, April 19). He describes an operation devised and used by himself which he calls tubal reimplantation. He considers it indicated in selected pathologic conditions; such as, tuberculosis, nephritis, syphilis and certain mental conditions. It is essentially non-mutilating and conservative. It can be performed only on normal tubes, but minor pelvic lesions can be corrected at the same time. It can be performed both abdominally and by the vaginal route in multiparae, and by the latter route much better in virgins. The steps of the operation are as follows: "1. Make mediolateral incision 4 inches long. Open peritoneal cavity in median line after retracting rectus muscle and opening posterior sheath with scissors. 2. Grasp fundus uteri with vulsellum forceps and draw it up through the incision. 3. Amputate tubes on either side one-fourth inch from the uterine cornua. With a fine rat-toothed forceps or a probe, invaginate the distal half of each stump and close the lumen with two catgut sutures. This produces a seroserous adhesion which will effectively close the canals. 4. On the posterior uterine wall, make two parallel vertical incisions one inch long and one-half inch apart. These incisions should not be over one-fourth or one-fifth inch deep. With a curved forceps, burrow between these incisions, creating a canal of sufficient size to contain the two tubes. 5. With the same curved forceps remaining in the new canal, grasp the opposite tube and draw it through the canal so that it emerges on the opposite side. Reintroduce the forceps from the opposite side and repeat the same procedure with the remaining tube. In the new canal the tubes should be parallel to each other, one lying above the other, the cut extremity of each tube emerging on the opposite side of the new canal. 6. Make a small cuff by everting the tubal mucosa (it is sometimes necessary to make two small incisions before being able to evert satisfactorily) and secure cuffs to the margins of the new canal by fine catgut stitches which also control any uterine oozing which may be present. Test the patency of both tubes by means of a fine probe. 7. Close the abdominal incision." This operation, he thinks, preserves the function of the ciliated epithelium, the tube remaining an open canal from end to end and draining normally if we believe in Menge's wave. He believes that, while he cannot offer proof, the normal conditions can be restored after this operation affording the possibility of future pregnancy if desired, and he was led to evolve the above technic by the request of a patient for a procedure permitting restoration of fecundity, the other methods of tubal sterilization lacking this. He has performed the operation four times within the last eighteen months and he expects to reconstruct the tubes in one of the patients at a future time. Special emphasis is laid on two points: "first, the invagination of the tubal stump, thus obtaining seroserous coaptation; second, the eversion of the cut tube as it emerges from the tunnel on the posterior uterine wall, obliterating raw surfaces which would invite the formation of adhesions. The ultimate success of the operation depends, in a large measure, on the careful observance of these two points."

Children Better Without Tea and Coffee

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Experiment until you know the amount that pleases your taste and have it served that way.

The **Clinical Record,** for Physician's bedside use, together with samples of **Instant Postum, Grape-Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any Physician who has not yet received them.

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PROFESSIONAL OPINIONS

A. F. ERICH, M.D., Baltimore, Md., Professor, Diseases of Women, College of Physicians and Surgeons, Baltimore; Surgeon in charge of the Maryland Woman's Hospital, etc.: "After a somewhat extended trial, I can confidently recommend Listerine as an efficient antiseptic and deodorizer of decomposing matter. As a vaginal injection I have found it of use in a number of instances. To remove the offensive odor from the hands, after attending cases of abortion, uterine cancer, or other diseases, where decomposing matters are found in the vagina, it has proved to be superior to anything previously used. It has, unquestionably, a great field of usefulness before it."

Edward W. Jenks, M.D., LL.D., Chicago, Ill., late Professor of Medical and Surgical Diseases of Women, and of Clinical Gynecology, Chicago Medical College: "I have found Listerine to be an efficient and agreeable antiseptic dressing. In offensive uterine and vaginal discharges it has proven a complete deodorizer, surpassing in this particular any other article I have used."

Joseph Taber Johnson, A.M., M.D., Washington, D.C., Professor Obstetrics and Diseases of Women and Infants, Medical Department, University of Georgetown, D.C.: "I have used Listerine in the same class of cases in which I have been accustomed to use carbolic acid, and have been much pleased with results. In uterine cases, and for removing odor from my hands after examinations, I employ it frequently. Its freedom from the peculiar odor of the

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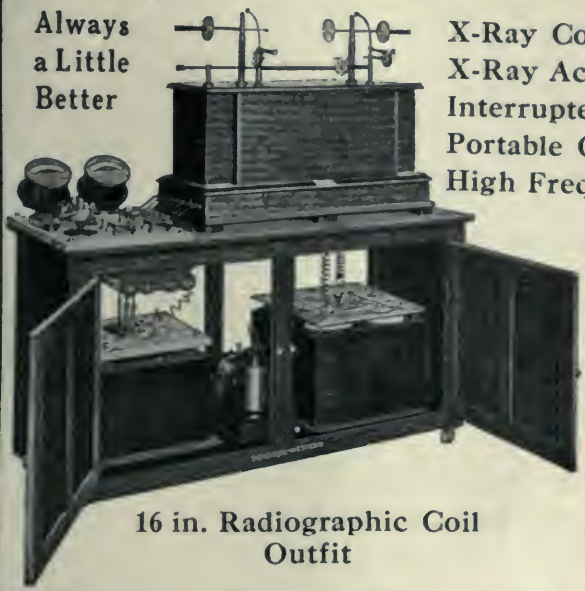

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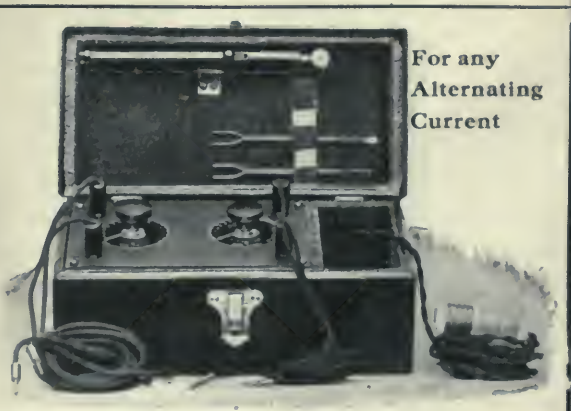

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carbolic acid is much in its favor. It is an excellent remedy, properly diluted, to correct the foul smells after abortion, and to disinfect offensive lochial discharges. I often use it in obstetrical cases. It promptly corrects the intolerable odor, and gives equal satisfaction in offensive leucorrhea."

R. A. Kinloch, M.D., Charleston, S.C., Professor of the Principles and Practice of Surgery and Clinical Surgery, Medical College of the State of South Carolina: "A long experience with Listerine causes me to regard it a useful and very pleasant combination of valuable agents. It serves a useful purpose after confinement, where the discharges from uterus and vagina are disagreeable, and where, as is so often the case, the odor of carbolic acid is objectionable."

E. B. Stevens, A.M., M.D., Cincinnati, Ohio, President Obstetrical Society of Cincinnati: "I am highly pleased with the effects of Listerine. Its special character adapts it to a large range of purposes; deodorizes completely the hands of the obstetric and gynecic practitioner; deodorizes offensive conditions of the utero-vaginal passages, especially where there are bad-smelling discharges. Withal, as compared with carbolic acid, especially, there is the same grateful advantage—the agreeable odor in using."

TRAUMATIC SUBDELTOID BURSITIS

J. M. Flint, New Haven, Conn. (*Journal A. M. A.*, April 19), discusses the traumatic bursitis of the shoulder joint which, he says, has been heretofore treated in its acute stage by immobilizing the joint to prevent further traumatism. The method of treatment which he suggests and of which he reports the results in his experience is aspiration of the joint. This method was first used by him in a case of metastatic bursitis in empyema from acute osteomyelitis of the femur. Aspiration of the bursa yielded pus and the diagnosis was confirmed by operation. Two cases of subdeltoid bursitis following injury are reported in which aspiration afforded complete and prompt relief. In the promptness of its results the effect of the aspiration can be compared only to that in a ganglion or weeping sinew. There may have been more severe cases, Flint says, in which frequently more repeated aspiration would be required and it is particularly desirable to know how the method would apply to chronic cases. It may prove that radical excision of the bursa according to the method of Baer or the treatment of Codman would be best in these cases. "The method of aspiration which we employed is shown in the accompanying diagram. A Luer syringe is partly filled with about 1 c.c. of sterile cocaine or novocaine solution. The latter is injected into the skin and ahead of the needle as it passes through the deltoid. The needle is pointed roughly parallel to the clavicle and directed toward the bursa lying just over the bicipital groove. The point of entrance is about 2 cm. below the level of the acromion process. As the point of the maximum tenderness lies directly over the bursa, this will prove perhaps the best guide for the needle, for it is just at this point that fluid was obtained in my cases." After the aspiration, it may be well to fix the joint in a velpeau bandage for a few days. This was not done in the two cases reported as Flint wished to observe the effects of the aspiration directly.

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MEDICAL men with Canadian qualifications desirous of obtaining British medical diploma would probably find it advantageous either to study for the desired diploma in the United Kingdom, or else have lessons by mail, so as to accustom themselves to the requirements of the particular examining body. Preparation for a university degree in most cases necessitates residence in the country. If, instead of a degree, the qualifying diploma of one of the Conjoint Boards of Physicians and Surgeons be obtained, the successful candidate then has access to examinations for further diplomas, such as a fellowship of one of the Royal College of Surgeons, or a diploma in public health.

A pamphlet about British medical examinations can be obtained gratis on application to the University Examination Postal Institution, 17, Red Lion Square, Holborn, London. The institution undertakes to advise gentlemen who wish to proceed to England for the purpose of obtaining some degree or diploma, and it can, if desired, assist them with lessons by mail. For some further particulars see advertisement on page lxxxviii.

"BI-PALATINOID" IRON IN ANEMIA

"BI-PALATINOIDS" may be described as small biconcave cachets of soluble glycerine jujube, each being divided into two compartments by a partition of the same material, they are perfectly unique for the exhibition of drugs, especially combinations in which chemical action with subsequent deprecation is likely to occur; for example, in ordinary Blaud Pill, chemical action between the ferrous sulphate and the sodium carbonate commences actually in the mortar in which the ingredients are compounded the ferrous carbonate immediately it is produced begins to oxidise to form ferric oxide, with the result that the efficacy of the pill is entirely dependent on its recent production. With Bi-Palatinoid Blaud Pill, the ferrous salt and the alkaline carbonate being in separate chambers, are kept apart and the nascent ferrous carbonate is produced actually in the stomach, with the result that the physician prescribing "Bi-Palatinoid" Ferrous Carbonate in cases of anemia or chlorosis is struck with the rapid improvement in the patient, thus clinically demonstrating the superiority of the "Bi-Palatinoid" over other preparations.

They have the further advantage that the contents are in a LOOSE POWDER, perfectly protected from atmospheric influence, of accurate dosage and quite tasteless.

Ferrous carbonate in the form of Blaud's Pills is generally considered the best iron preparation in treatment of anemia and chlorosis.

Professor Stockman, in reporting the results of a research on various preparations of iron, conducted in the wards of the Edinburgh Royal Infirmary, states that he is "convinced that ordinary inorganic preparations cure much more quickly than organically combined iron," and he recommends the administration of the freshly prepared carbonate; but this salt is very unstable,

Infant-Nutrition.

Professor E. Mather Sill's Experiments with Modified Cow's Milk with and without Albulactin.

In an article in the *New York Medical Journal*, Professor E. Mather Sill, M.D., Lecturer on Diseases of Children at the New York Polyclinic Medical School, has published a remarkable series of clinical experiments on modified cow's milk with and without the addition of Albulactin.

These experiments are epitomized in the table on this page. They corroborate what a physician wrote in *The Lancet* that "Milk modification by means of Albulactin . . . . is preferable to and more reliable than the use of citrated milk, peptonised milk, cream and whey feeding and all other plans which have been adopted to meet the frailty of infantile digestion."

This is what may be expected, because Albulactin is pure soluble lactalbumin, and thus enables us to add to diluted cow's milk that proteid, lactalbumin, which is the essential nutritive one in human milk, and which also causes the caseinogen to form soft, tiny flakes instead of the tough, large curds of ordinary modified milk.

Professor Sill especially refers to a series of cases which were markedly under weight. He writes: "In every case the Albulactin, when added to the modified milk, produced a gain in weight above normal per diem ranging from 50 to 800 per cent. This is striking evidence of a profound effect upon nutrition.

"During the subsequent modified milk period there was almost as striking a decline, both relatively as compared with the Albulactin period and absolutely in four cases. This demonstrates beyond doubt the value of Albulactin in undernourished babies."

Professor Sill's conclusions in his own words are: "The experience gained by me from the use of Albulactin leads me to believe that this soluble albumin has a great field of usefulness, and especially for those babies who are ill-nourished or under weight and who do not seem to be making satisfactory gains. This soluble albumin seems to supply that ingredient which is not present in the diluted cow's milk in sufficient quantities to produce a healthy and rapid growth in the above-named class of cases."

Samples of Albulactin will be sent, free, on application to Messrs. A. Wulfing & Co., 12 Chenies Street, London, W.C.

			Cow's Milk + Albulactin.			Modified Cow's Milk Alone.		
Case.	Age. Months.	Weight. Lbs.	Days under Treatment.	Gain per day. Ozs.	Normal* Ozs.	Days under Treatment.	Gain per day. Ozs.	Normal* Ozs.
1	3	10-6	32	1.34	.80	32	1.34	.54
2	4	9-12	23	1.39	.54	23	0.22	.54
3	10	16-5	19	0.80	.54	25	0.16	.61
4	5	11-1	23	1.09	.54	23	0.65	.54
5.	8	14-10	22	1.61	.20	7	1.43	.20
6	9	10-9	19	1.80	.20	19	0.63	.20
7	8½	10-7	38	0.76	.20	42	0.33	.54
8	8½	10	39	0.80	.20	44	0.43	.54
		Total		9.59	3.22		5.19	3.71

While the infants were being fed with Albulactin, as Professor Sill points out, they showed an increase of 0.80 oz. a day above the normal, but when they were put on modified milk alone they showed an increase of only 0.19 above the normal, an increase of over 400 per cent. in favor of Albulactin.

**Normal daily gain in weight for children of that age.*

oxidation commences from the actual moment of its formation, with the result that in ordinary pharmaceutical Blaud Pills the practically inert ferric oxide is administered instead of the active FERROUS CARBONATE.

The great advantage of administering Blaud Pill in the Bi-Palatinoid form is that NASCENT FERROUS CARBONATE (which is readily soluble in the gastric juice) is produced actually in the stomach—owing to the Sodium Carbonate and Ferrous Sulphate being kept in separate chambers till swallowed—and premature oxidation thereby prevented.

Manufactured by Oppenheimer, Son & Co., Ltd., London, England. Sole Canadian Agent, M. E. Vanzant, 732 Yonge Street, Toronto.

THE TRIPURE SYSTEM OF DISTILLATION

STERILIZING is simply boiling the water. This method of purification has many decided objections; in fact, nothing is accomplished but the more or less destruction of germ life. As it requires a temperature of 266° F., extending over a period of many hours, to complete the destruction of germ life, this method proves itself insufficient, as such a temperature is never reached in boiling water under atmospheric conditions.

Let it be supposed that ideal conditions existed and that the bacteria contained in the water were destroyed; all the dead germs would still remain in the water and would, in turn, set up germs of putrefaction. Sterilization cannot remove mineral or organic matter, and the water is rendered flat in taste, due to the loss of air by boiling.

In the Tripure System, Ozone is introduced into the water to oxidize the organic matter. If too small an amount of Ozone is used, only a portion of the organic matter is acted upon. Even if the proper amount of Ozone were used, this method has the same objection as sterilization, namely, that the germs, the mineral and the organic matter still remain in the water, nothing being removed.

Distillation properly performed renders water free from all impurities. The TRIPURE SYSTEM of distillation effects a complete purification, producing a water free from organic and mineral matter and all bacteria. The raw water, being converted into steam or vapor, frees itself from all matters that were in solution or suspension. This vapor being condensed in block-tin coated tubes gives a product free from all contamination.

Ordinary distilled water is insipid, with a more or less steamy taste. By the TRIPURE System this is overcome, and the water rendered sweet and palatable by a patented process of aeration which takes place prior to condensation.

The distilled water produced by this system can be recommended as being of the highest purity.

There is no apparatus that produces a pure aerated distilled water under such favorable conditions as the TRIPURE Water-Still.

The Sanitary Water Still Co., of Canada, Ltd., 136 John St., Toronto, have the sole Canadian rights for the Tripure System.

LABORATORY TESTS OF

BOVRIL

The stringent experiments made at the School of Physiology, Dublin, proved:

1—That Bovril possesses remarkable feeding power;

2—That it enables the system to extract more nutriment from ordinary diet than without its use;

3—That these two qualities give Bovril a body-building power of from 10 to 20 times the amount of Bovril consumed.

MELUBRIN

Antirheumatic

THIS succedaneum for the salicylates is a non toxic specific in articular rheumatism and allied conditions.

Ample clinical demonstrations have proved its remarkable efficiency in the treatment of articular rheumatism, lumbago, sciatica, arthritis, intercostal neuralgia, and the different forms of rheumatic polyarthritis.

It is also a powerful febrifuge.

Samples and literature will be sent those who mention this journal by the

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THE SALIENT FEATURES OF THE SCHEIDEL-WESTERN X-RAY INTERRUPTERLESS TRANSFORMER

A HIGH potential Transformer of Open-Core type, that runs in exact phase with the alternating current.

A motor generator (not converter) having two separate windings, which gives a more exact sign wave and has less heating effect on tubes.

Excluding all inverse current, which gives longer life to the tube.

A rectifier taking 35 degrees of the electrical wave, which imparts an impact to the target at the point of voltage curve, where the vacuum in the tube should be broken down to give maximum penetration.

Distributing combs on the rectifier, acting as series spark gaps to increase the definition with the maximum penetration.

Heavy rotating parts, set low on a substantial truck, which can be removed from cabinet when desired. By setting these parts low, vibration is reduced to a minimum and makes parts easy to handle.

A cabinet having a removable front so that the motor truck can be easily slipped in or out when desirable, but so constructed that both truck and cabinet can be rolled across the floor together if desired.

A white marble terminal board, from which all connections are made to milli-am-meter and X-ray tube, and in connection with these a third vacuum regulator operated by a cord at the switchboard.

A separate switchboard of white marble connected with motor and transformer by flexible cables, an am-meter for reaching primary currents, a controller and inductance and motor starter.

A heavy lead shield or screen surmounting the switchboard frame, and having a lead glass window inserted. The screen is thoroughly protective to the operator. When the switchboard is used inside a lead cabinet, the screen is detachable and need not be furnished with the equipment.

A split-second clock attached to the screen just under the lead glass window.

Scheidel-Western X-ray Coil Company—New York, Philadelphia, Pittsburg, Providence, St. Louis, Denver, St. Paul, Dallas, Minneapolis, San Francisco, Seattle, New Orleans, Toronto, Winnipeg.

The Canadian Agents for this company are Ingram & Bell, Ltd., Toronto.

NEO-SALVARSAN

Discussing the use of Neo-salvarsan, C. H. Chetwood, of the New York Polyclinic Medical School, says, "It is important to distinguish, if possible, between the reaction from the medication, and the increased activity of the invading parasites of the disease. In one instance, increased dosage and renewed attack are demanded; in the other are interruptions of the treatment, until the irritating influence of the chemical agent upon the system has subsided." In ordinary cases Chetwood advises repetition of small doses every few days, or full dose every week "until an aggregate of from 2.5 to 4 grammes have been employed in a period of from three to six weeks."

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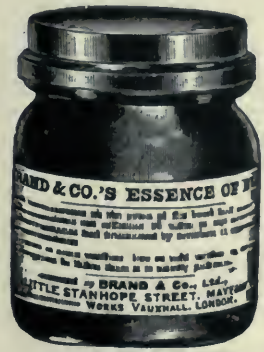
ESSENCE OF BEEF AND OF CHICKEN

For Exhaustion and Weak Digestion



IN GLASS AND TINS

The Best Restoratives After Loss of Blood From Any Cause

BRAND'S Essence contains no added condiments or stimulants. It is a pure meat essence in the form of a very delectable golden-coloured jelly, pleasant to take, and easy of assimilation by the most delicate digestion.
MEAT JUICE, and other Invalid Delicacies.

BRAND & CO., LIMITED, MAYFAIR, LONDON, ENGLAND
NEWTON A. HILL, 25 Front St. East, Toronto. H. HUBBARD 27 Common St., Montreal

Knorr's Consomme -Cubes-

Each cube one cup.
"Ready in a minute."

2 cubes 5 cents.

DOCTOR, in your next case of Typhoid Fever, or any condition where solid food is inadvisable, may we suggest that you prescribe

KNORR'S Julienne Soup

It is mildly stimulating and one of the most concentrated forms of liquid nourishment manufactured

Remember also Knorr's Lentel, Rice-Julienne, Tapioca, Tomato and Semolino Soups. They are ideal for use by the sick.

Canadian Agents

The Maclaren Imperial Cheese Co., Ltd.
69 Front St. East :: :: Toronto

WILSON'S INVALID PORT

THE following voluntary expressions of opinion from Canadian physicians as to Wilson's Invalid Port will be of interest:

"I highly appreciate 'Wilson's Invalids' Port.' It is a tonic of superior excellence, and having tested its merits personally, I can speak from personal experience and recommend it. It is palatable, mild and gently stimulating—a most admirable tonic. I must congratulate you on your success in the selection and combination of ingredients to form so complete a wine to suit the most delicate and fastidious taste. I shall certainly recommend it to my patients and often."

"As to my experiences with your 'Invalids' Port' I am glad to be able to state that I have formed a very favorable impression of it. I tried it in a case of a married woman who had not entered in her climacteric period of life. She felt better from its use almost at once, her appetite improved, enjoyed her meals and apparently increased her power of food assimilation. I intend continuing its use, as she is well satisfied as to its being the right thing. I think it is an ideal tonic in all such cases on account of its combination."

"I used 'Wilson's Invalids' Port' in the stage of convalescence from a severe attack of Typhoid Fever. The patient—a professional nurse—was so impressed with the beneficial effect of its tonic properties that she asked to continue its use, which I gladly agreed to. I believe it was of valuable assistance in restoring this patient to robust health, and am pleased to give you this report of its usefulness."

"I gave 'Wilson's Invalids' Port' to a patient whose case I deemed suitable to test it upon. She expresses herself very much pleased with its effects, and is taking it cautiously and only when in need of such a tonic. Her report being so favorable, I have ordered it in another case of general debility incidental to advanced years and self-sacrifice. She expresses herself similarly."

DISPENSARY ABUSE

A. R. WARNER, Cleveland (*Journal A. M. A.*, March 8), discusses dispensary abuse and the possibility of its elimination by organization and the application of sociologic methods. He sums up the discussion as follows: "1. The problem of dispensary abuse exists and must be solved. 2. The first step in the solution must be the creation in every dispensary of an executive head having sociologic training and interests. To this head and his assistants must be given final authority to decide admissions and full control of all functions of the dispensary except the medical treatment of the patients admitted. This executive staff will also develop the opportunities for preventive medicine and general social service. 3. A system of classified or graded admissions and graded or modified refusals will assist in the practical work of meeting the problem. 4. Such a system has been in use in one dispensary for a year, with satisfactory and pleasing results. It seems to be accomplishing much good, and no objectionable features have appeared."

In Dysmenorrhea, Colic, Spasm, etc.

Arrests and prevents abortion

Serviceable in congestive Headache, Nervous and Hysterical Disturbances connected with Dysmenorrhea

A safe and powerful antispasmodic free from opiates, is palatable and improves the digestion

℞

Hydras

Sig.—

One or two teaspoonfuls as required

John Wyeth & Brother

Incorporated

PHILADELPHIA

LYMANS, Limited, Montreal. Factors and Distributors for Canada

MODIFIED MILK POWDER (C. M. P.)

It is during the summer months, when infants suffer most from improper food and tainted milk, that the value of our Modified Milk Powder (C. M. P.) is most apparent. This milk powder, while free from pathogens, has not been sterilized and retains all the antiscorbutic qualities of fresh milk and closely approximates the milk of the mother. Only a moment is required to dissolve it in water at the time of feeding, and all the danger coming from keeping milk for many hours during the summer heat is avoided.

There is no food approaching Modified Milk Powder (C. M. P.) in convenience, in scientific correctness, and in practical effectiveness. In connection with our Sweet Whey Powder (C. M. P.) for difficult cases, it satisfactorily solves the question of infant feeding. The following analysis shows the dietetic correctness of these foods:—

Modified Milk Powder.		*Sweet Whey Powder.*	
Milk Fat	11.55%	Casein	0.35%
Casein	9.50%	Albumen	12.38%
Milk Albumen	9.60%	Milk Sugar	76.55%
Milk Sugar	60.10%	Ash	9.10%
Milk Salts	7.75%	Moisture	1.62%
Moisture	1.50%		
	100.00%		100.00%

Free samples will be sent to physicians upon application, by mail. Address, The Canadian Milk Products Co., Mail Bldg., Toronto.

HOSPITAL CLINICAL RECORD

J. S. Brotherhood, Saratoga Springs, New York (*Journal A. M. A.*, April 19), describes a set of hospital record blanks, devised by himself after a study of the records of about thirty of the leading hospitals of the country. These are illustrated in his paper with full instructions as to their use. He recommends them to be of a standard size, such as is used for business letters, as these are best adapted for filing, etc. Blank is devoted to the vital statistics of the patient, the name and address of physicians, former hospital history and the diagnosis, with plenty of space for remarks. The ruling provides for hospital and service numbers. The second blank consists of a plain ruled paper with side-ruled margin for brief notes or summaries, and the major portion is devoted to a carefully taken history. The third portion of the clinical record consists of laboratory and special examination charts, while the fourth, called the temperature chart, gives the daily record of the patient's condition and is made out by the nurse, according to the directions given. For keeping and filing records, filing cases may suffice in small hospitals, but in large hospitals they should be bound and a cross-index card system employed.

Chemische Fabrik auf Actien (vorm E. SCHERING)
Berlin N. Mullerstrasse, 170-171

ATOPHAN

A NEW REMEDY FOR GOUT

HAS A POWERFUL ELIMINANT ACTION ON URIC ACID

ATOPHAN increases the elimination of uric acid in a proportion heretofore unattainable and thus obviates overcharging the gouty system with uric acid. Its action is more certain and more prompt than colchicum preparations and it does not cause any disagreeable secondary actions.

Atophan is also indicated in Articular Rheumatism, Blenorrhœic Arthritis, Neuralgia, Sciatica, etc.

NOVATOPHAN, A NEW TASTELESS PRODUCT.

Prescribe: Tab'. Atophan or Novatophan, 5 centig. No. XX, in original Schering tubes

Samples and Literature on application to

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REMEMBER
Antiphlogistine
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MEANS
THERAPEUTIC EFFICIENCY

SEASONABLE THOUGHTS

Vacation time presents its full quota of cases incident to the season. SPRAINED ANKLES, MUSCULAR STRAINS, SMALL JOINT INJURIES, INFECTIOUS INSECT BITES, BEE STINGS, SEVERE SUNBURN, CONTUSED AND OTHER WOUNDS, while sometimes minor, may develop serious consequences if not given prompt attention.

THE DENVER CHEMICAL MFG. CO., NEW YORK

When writing advertisers, please mention The Canadian Journal of Medicine and Surgery.

HISTORICAL MEDICAL MUSEUM

THE Historical Medical Museum, organized by Mr. Henry S. Wellcome, which is to be opened in London towards the end of June next, will include some objects of exceptional historical medical interest.

An important exhibit in the science section will be a large collection of the original apparatus used by the famous Galvani in making his first experiments in galvanism in the 18th century.

A remarkable collection of votive offerings for health will be exhibited. The custom of presenting these offerings in cases of sickness is a very ancient one, and the collection that will be shown is probably the finest every brought together. It will include Graeco-Roman votive offerings of special anatomical and pathological interest, in silver, bronze, marble and terra-cotta, together with a number of similar objects used for the same purpose in medieval and modern times.

Ancient microscopes and optical instruments gathered from all quarters of Europe, will form another important feature, and a selection of surgical instruments used by famous surgeons when operating on historical personages is promised.

The collection of amulets and charms, connected with English folk-medicine, will be very complete, and will constitute an exhibit of more than ordinary interest.

A fine collection of early medical medals and coins from the Graeco-Roman period, ancient manuscripts, and early printed medical books, will also be shown, together with many other objects of interest to medical and scientific men.

SAHLI'S SPHYGMOBOLOMETER

N. B. POTTER, New York (*Journal A. M. A.*, April 19), describes and illustrates Sahli's pocket sphygmobolometer and the technic of its use. These are best understood with reference to the illustration; the measurement is in no way related to the estimation of blood-pressure. The instrument enables us to estimate the energy or work of the pulse-wave, and indirectly the strength of the cardiac systole and not the static conceptions of blood and pulse-pressures. Sahli considers that this measurement of energy is in effect what we have sought to determine by palpating the pulse with the finger and that a reasonable estimation by instrumental aid will give us new information regarding the circulation which will be of great value in many pathologic conditions. He says that to estimate the condition of the circulation by sphygmomanometric measurements is as futile as it would be to calculate the horsepower of an engine by the steam pressure in the boiler. In the interpretation of the sphygmomanometric measurements it must be kept in mind that they measure not the functional capacity of the heart for work but the amount accomplished at a given instant. Clinical experience will soon show whether or not this method is of practical value.

National Fluid Extracts

THE increasing demand for this line is the best evidence of merit. Doctors would not continue to prescribe them if they did not meet the reasonable expectations of the profession.

National Fluid Extract of Ergot

National Fluid Extract of Nux Vomica

National Fluid Extract of Digitalis

although their sale has been phenomenal, are really no better than other National Fluid Extracts, it is because they are very important lines and have never failed to respond in anxious moments, that gives them the high place in the estimation of the profession. Every other line is prepared with the same attention to detail, by the same modern methods and with the same pharmaceutical skill, as the three important staples above mentioned, and the full line of National Fluid Extracts are as dependable, to the very limit of the therapeutic value of the crude drug employed.

No physician can make a mistake in specifying NATIONAL FLUID EXTRACTS. They are all made at one place, under one chemist, and are distributed by all our branches as the uniform product of our Central Laboratory situated at Montreal.

National Drug & Chemical Co. of Canada
LIMITED

SAUNDERS' NEW CATALOGUE

W. B. Saunders Company, publishers, of Philadelphia and London, have issued another edition (17th) of their handsome illustrated Catalogue.

In going through this edition we find it describes nine new books and ten new editions, not described in the previous issue. These new books are of great interest to the medical men, because they treat of subjects being daily discussed in medical circles.

Any physician can get a copy of the Saunders Catalogue by dropping a line to these publishers. A copy should have a place on the desk of every physician, because it is most valuable as a reference work of modern medical literature. Send to Saunders to-day for a copy.

AMEBIC DYSENTERY

R. Lyons, New Orleans (*Journal A. M. A.*, April 19), impressed by the rapid results of Rogers' emetine injection treatment for amebic dysentery in India, has utilized it himself in six cases which he here reports. All but one recovered and this patient should not be counted as he was hopeless from the first. The average length of treatment with emetine until stools became normal was nine days in the other five cases, and he thinks it would have been still shorter had the ampules of emetine been employed throughout. The largest dose used was three-quarters of a grain and no ill effects were noted from this dosage. The average total dosage was 2.6 grains which is a little larger than that of Rogers. The preparation was made up by a local druggist, and the alkaloid emetine caused at times a little irritation and infiltration on account of the slight excess of acid. The advantages of the subcutaneous injection of emetine treatment are summarized by Lyons as: 1. Simplicity and ease of administration of the drug; 2. Absence of pain, vomiting and depression; 3. Accurate dosage (no loss through the bowels); 4. Rapid absorption and effect; 5. Reliability of the product (hydrochlorid). While the time which has elapsed is yet too short to enable one to speak with absolute certainty as to the cure, he believes that the results are highly suggestive and that we have in this an ideal method of treating amebic disease.

VANTA VESTS

The attention of physicians is called to page xxxv of this issue of The Journal, where are advertised Vanta Vests, especially designed for infants and children, and manufactured by J. R. Moodie & Sons, of Hamilton, Ont. This garment is particularly suitable for children who have susceptible chests, each garment consisting of a double fold of material over both thorax and abdomen. Vanta Vests are put on like a coat, and fasten without a pin or button, eliminating all possibility of scratching or of gaping open when a button comes off. Vanta Vests are made in all sizes, and can be purchased at from 25 cents to 50 cents each from dry goods stores or children's outfitters.

Interesting
Therapeutic Advances

A palatable tonic food and reconstructive.

'Roboleine'

Trade Mark

Rapidly increases weight, producing firm flesh, strong bones and healthy blood.

Unequalled for fortifying weaklings—infants and adults against the effects of cold weather.

Its beneficial effect is immediate in Anæmia, Debility, Rickets and wasting diseases generally.

It is a scientific combination of Fresh Red Bone Marrow, Cream of Malt and the Hypophosphites.

Children Like It

Used in all the leading hospitals and sanatoria throughout the world.

Entirely Supersedes Cod Liver Oil.

Colloid Metals

A New System of Treatment.

'Collosols'

Argentum or Hydrargyrum
(1 in 2000)

Kill pathogenic micro-organisms in a few minutes yet are harmless to human beings.

"No microbe is known that is not killed in laboratory experiments within six minutes."
British Medical Journal, March 2nd, 1912

Used successfully in Gonorrhoea, Gonorrhoeal Conjunctivitis, Syphilis, Tonsillitis, Eczema, Rigg's Disease, etc.
'Lancet,' Feb. 3rd, 1912.

Given hypodermically, intravenously, by the mouth or applied topically.

NOTE.—Collosols are not precipitated by the blood when injected.

ENQUIRIES INVITED

Manufactured in the Laboratories of

OPPENHEIMER, SON & CO., LIMITED
LONDON, ENGLAND
Sole Agent for Canada
MERVYN E. VAN ZANT, 732 Yonge St. ∴ Toronto, Ont.

THE GOOD OLD SUMMER TIME

THE coming summer season will no doubt produce its usual crop of cases for physicians, peculiar to the season.

Insect Bites, Bee Stings, Sunburn and its frequently following Dermatitis, Strains and Small Joint Injuries from baseball and other sports, Sprained Ankles, Ecchymosed Eyes, Infected Wounds, etc., will demand the first attention of the physician and a second thought will be a suitable remedy.

All inflammatory conditions, whether from infective or traumatic causes, rapidly subside when dressed with Antiphlogistine. Its convenience of application, with the assurance of satisfactory therapeutic results, make it almost indispensable in emergency work.

RENAL CALCULUS

A. P. OHLMACHER, Detroit (*Journal A. M. A.*, April 19), discusses the connection between bacteriuria and nephrolithiasis and the treatment of the latter by autogenous vaccination. The only previous literature he finds is an early publication by Wright on vaccine therapy, which he quotes. Ohlmacher publishes eight cases, five of them cases in which there were one or more attacks of renal colic but in which the patient applied for treatment of painful urination. All but two of these patients were symptomatically relieved by autogenous vaccine treatment. The organisms were found to be the staphylococcus and colon bacillus. While the cases were not numerous enough to authorize conclusive deductions, he has been favorably impressed with the results of the treatment in these cases. In several the offending bacterium was still found in the urine after relief of symptoms, hence he thinks a conservative attitude should be maintained as regards the possibility of preventing calculus formation by bacterial vaccine treatment. In all cases the bacteriologic analysis was immediately begun on the freshly evacuated urine, sterilized receptacles being employed. Agar plate-cultures were prepared. "Vaccines were prepared either from the first generation of pure cultures when laid on agar-slants, or from the second generation from plates, transplants being taken from several colonies to secure the possible 'varieties.' The bacterial emulsion was killed by beating for half an hour at 60 C. (140 F.), diluted with sterile water, and preserved by adding 0.4 per cent. trikresol. The first dose of vaccine numerically approximated by the differential density method, and subsequently standardized by the response to inoculation both as regards the local reaction and the symptomatic effect. When treatment was prolonged, fresh autogenous vaccines were prepared as occasion required." Ohlmacher thinks these experiences emphasize the importance of routine bacteriologic analysis in all cases of renal calculus and the associated pyuria. Bacterial therapy with autogenous vaccines should be instituted in non-operative cases of non-calculous cases of pyuria and bacteriuria for the relief of bladder irritability and impaired general health and in cases in which there has been operation and these symptoms persist.

Drugs & Chemicals.

MAY AND BAKER, LTD., manufacturers of pharmaceutical chemicals since 1834—offer at strictly competitive prices every description of pharmaceutical product—carefully standardised and complying with the Pharmacopœia and other recognised requirements.

May & Baker's products are purchased regularly by the India Office, the Crown Agents for the Colonies, The War Office, the Admiralty and a large number of foreign Governments as well as by many Hospitals and Institutions both at home and abroad.

The medical profession is invited to ask for May & Baker's chemicals in original packages—obtainable from all the leading wholesale houses in Canada.

MAY AND BAKER, LTD.,
BATTERSEA. LONDON. ENGLAND

HORLICK'S
MALTED MILK
IN TYPHOID FEVER

Pure, rich milk combined with an extract of malted grains, highly concentrated, partially pre-digested, palatable, and readily assimilated, makes **HORLICK'S Malted Milk** the physician's first choice when selecting a reliable nutriment in the treatment of Typhoid and other low fevers.

HORLICK'S Malted Milk has proved invaluable for many years past in the various diseases and conditions in which a complete, well-balanced diet is of vital importance.

A glassful, taken hot upon retiring, proves an excellent "Night Cap" for the physician, when tired out or "chilled through."

Samples sent, free and prepaid, to the profession, upon request.

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A SYSTEMIC BOOST

It is safe to say that the average physician is called upon to prescribe a tonic more frequently than any one other form of medication, unless it be a cathartic. Patients who are patients solely because they are tired, "run down" and generally debilitated, are constant visitors at the physician's office. Such individuals need something that will boost them up to their normal point of resistance and hold them there: in other words, not a mere temporary stimulation, with secondary depression, but a permanent help to the revitalization of the blood and a general reconstruction. Pepto-Mangan (Gude), is not only prompt in action as an encourager of appetite and better spirits, but is also distinctly efficient as a blood builder and systemic reconstituent. It is pleasant. non-irritant, free from constipating effect, and does not stain the teeth. It is thus a general constitutional tonic of positive service in all conditions of general devitalization.

VARIOLA AND VACCINIA

P. M. Ashburn, Washington, D. C., (*Journal A. M. A.*, April 19), offers the following explanation of the relationship of variola and vaccinia. The basic facts, that small-pox contagion or inoculation produces a highly contagious and largely fatal disease, but that after being passed through cattle and monkeys for a few generations and then passed back to man it causes vaccinia, a localized, non-contagious disease with no mortality of itself and never regains the former virulence, are explained by him as follows: "1. The germ of smallpox by passage through certain lower animals loses (acquires) certain properties, and it transmits its altered condition to its offspring forever, a more striking instance of hereditary transmission of acquired characteristics than has ever before (so fas as I know) been cited. 2. *Small pox is due to a dual and divisible virus, one part of which causes vaccinia and the specific smallpox eruption, the other part being necessary for the production of the contagious, generalized, mortal disease with a distinct pre-eruptive stage and initial rashes.* The latter is the favored explanation, both because it seems more reasonable and because it is supported by numerous well-established facts." As evidence favoring this explanation he cites examples of other viruses which seem to show a similar duality and animal poxes and variolation of animals. Also the clinical observations as follows: "A. The three forms of smallpox not showing a pock stage, or only an incomplete one, purpura variolosa, varioloid and variola sine exanthemate, occur in vaccinated persons as often as, or more often than, in unvaccinated. B. *Vaccinia therefore protects against the pox stage of smallpox rather than, or to a greater degree than, against the whole disease.* C. Twenty-two per cent. of 2,601 persons who had had variola or been variolated were still susceptible to vaccinia, though immune to smallpox. His views will be given in fuller detail in the *Philippine Journal of Science* and in the *Military Surgeon.* In the meantime he hopes that those who have the opportunity with smallpox cases will test them further by experimental work.

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